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# Small-Scale Rotor Test Rig Capabilities for Testing Vibration Alleviation Algorithms

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Stephen A. Jacklin and Jane Anne Leyland

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National Aeronautics and  
Space Administration

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# SMALL-SCALE ROTOR TEST RIG CAPABILITIES FOR TESTING VIBRATION ALLEVIATION ALGORITHMS

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## SUMMARY

A test was conducted to assess the capabilities of a small-scale rotor test rig for implementing higher harmonic control and stability augmentation algorithms. The test rig uses three high-speed actuators to excite the swashplate over a range of frequencies. The actuator position signals were monitored to measure the response amplitudes at several frequencies. The ratio of response amplitude to excitation amplitude was plotted as a function of frequency. In addition to actuator performance, acceleration from six accelerometers placed on the test rig was monitored to determine any linear relationship existing between the harmonics of N/Rev control input and the harmonics of any resulting N/Rev measured fuselage vibration. To determine this relationship, the ordinary least square error (LSE) identification technique was used to identify local and global transfer matrices for two rotor speeds at two batch sizes each. It was determined by this test that the MCCS interfaced very well with the rotor system and kept track of the input accelerometer signals and their phase angles. However, the current high-speed actuators were found to be incapable of providing sufficient control authority at the higher excitation frequencies.

## LIST OF SYMBOLS

$A_{Ref}$	Fourier sine coefficient for a window of data initiated with the reference blade at zero azimuth
$A_w$	Fourier sine coefficient for a window of data arbitrarily initiated with respect to the position of the reference blade

## LIST OF SYMBOLS (CONTINUED)

$B_{Ref}$	Fourier cosine coefficient for a window of data initiated with the reference blade at zero azimuth
$B_W$	Fourier cosine coefficient for a window of data arbitrarily initiated with respect to the position of the reference blade
$f$	actuator oscillation frequency, Hz
$I_b$	moment of inertia of the rotor blade about the spindle axis, lb-sec <sup>2</sup> /in
$I_c$	moment of inertia of the blade cuff about the spindle axis, lb-sec <sup>2</sup> /in
$I_{pr}$	moment of inertia of the pitchlink about the spindle axis, lb-sec <sup>2</sup> /in
$I_{sp}$	moment of inertia of the swashplate about the spindle axis, lb-sec <sup>2</sup> /in
$l$	moment arm of pitchlink about the spindle axis, in
$m$	number of measurement sets used to identify the T matrix at each digital cycle
$N$	number of rotor blades
$n$	number of accelerometers (channels) on the rotor rig which provide acceleration data to the identification algorithm
$P_A$	total load reacted at the swashplate actuator, lbs
$s$	pushrod travel distance, rad-in
$T$	frequency domain transfer matrix, (2n x 6)
$T_{Local}$	transfer matrix between $\Delta\Theta$ and $\Delta z$ , (2n x 6)
$T_{Global}$	transfer matrix between $\theta$ and $z$ , (2n x 6)
$T_{Global}^*$	augmented $T_{Global}$ matrix ( $T_{Global} : z_0$ ), (2n x 7)
$Z$	frequency domain vibration measurement matrix for the global model, (2n x m)
$z$	vector of 4/rev Fourier transform sine and cosine coefficients, derived from n accelerometers, which define the acceleration in the frequency domain, (2n x 1)
$z_0$	$z$ vector evaluated when there is no applied multicyclic control, referred to as "z - zero", (2n x 1)
$\Delta Z$	frequency domain vibration measurement matrix for the local model, (2n x m)

## LIST OF SYMBOLS (CONTINUED)

$\Delta z$	small changes in $z$ for the local frequency model, ( $2n \times 1$ )
$\Delta \Theta$	frequency domain $HHC$ pitch control matrix for the local model, ( $m \times 6$ )
$\Delta \theta$	small changes in $\theta$ for the local frequency model, ( $6 \times 1$ )
$\theta$	higher harmonic control vector of $(N-1)/rev$ , $N/rev$ , and $(N+1)/rev$ sine and cosine coefficients in the rotating frame which define the state of the swashplate, ( $6 \times 1$ )
$\Theta$	frequency domain $HHC$ pitch control matrix for the global model, ( $m \times 6$ )
$\Theta^*$	augmented $\Theta$ matrix ( $\Theta : 1$ ), ( $m \times 7$ )
$\ddot{\Theta}$	angular acceleration about the spindle axis, $\text{rad/sec}^2$
$\ddot{\Theta}_b$	angular acceleration of the rotor blade about the spindle axis, $\text{rad/sec}^2$
$\ddot{\Theta}_c$	angular acceleration of the blade cuff about the spindle axis, $\text{rad/sec}^2$
$\ddot{\Theta}_{pr}$	angular acceleration of the pitchlink about the spindle axis, $\text{rad/sec}^2$
$\ddot{\Theta}_{sp}$	angular acceleration of the swashplate about the spindle axis, $\text{rad/sec}^2$
$\Phi$	azimuth of the reference blade when the “window of data” is initiated, degrees
$\Psi$	blade azimuth, degrees

### INDICES

$i$	matrix row index
$j$	matrix column index
$k$	digital cycle index or iteration step

### SUBSCRIPTS

$i$	matrix row index
$j$	matrix column index
$0$	vibration state when there is no applied control

### SUPERSCRIPTS

$T$	matrix transpose
$-1$	matrix inverse

## LIST OF ACRONYMS

HHC	Higher Harmonic Control
HPP	Half Peak-to-Peak
LSE	Least Squares Error
MCCS	Multicyclic Control Computer System
OARF	Outdoor Aerodynamics Research Facility
RTR	Rotor Test Rig

## INTRODUCTION

This report documents a study performed on the NASA Ames Rotor Test Rig (RTR) to determine its capability to impart active control signals to the rotor system using three high-speed actuators connected to the stationary swashplate of the test rig. Since the RTR uses a small-scale rotor (1/6.3095 - scale S-76 rotor), it must turn the rotor faster than its full-scale counterpart to match the full-scale tip speeds. This need to operate at high RPM places very high performance demands on the high-speed control actuators of the test rig. The primary objective of this test was to document the performance of the high-speed actuators up to and including the N/Rev frequency, where N denotes the number of blades in the rotor. A secondary objective was to quantify the relationship between signals obtained from six accelerometers mounted on the fuselage of the RTR to higher harmonic control signals applied by the high-speed actuators. This effort was pursued in anticipation of future vibration suppression work to be done using the high-speed actuators of the RTR. Since the testing was to be done outdoors in a hover mode, the vibration was expected to be minimal, thereby precluding vibration suppression from being an objective of this test.

## DESCRIPTION OF THE TEST HARDWARE

This test was conducted at the NASA Ames Outdoor Aerodynamic Research Facility (OARF). This facility consists of a 30 meter by 30 meter concrete pad, a below ground level frame for attaching the model support struts, and an underground control room with a complete data acquisition system. This facility is remote from other structures and is located on relatively flat land. Therefore, the only significant aerodynamic interference is with the ground. A photograph of the RTR installed on the top of a 6.10 meter tower at the OARF is shown in Figure 1.

The main hardware components for this test consisted of the rotor test rig, a data acquisition system, and a computer-based controller. The data acquisition system was used to monitor the RTR and the rotor system. Though the data system will not be discussed further, a summary of the test instrumentation is given in Appendix A. The rotor test rig and computer-based controller are discussed separately in the next section.

## Rotor Test Rig

The Rotor Test Rig (RTR) is a small-scale test rig (see Figure 2) designed to test various rotor configurations [Ref 1]. The rotor system used during this test was a 2.133 m diameter dynamically-scaled (1/6.3095 scale) four bladed, fully articulated, Sikorsky S-76 rotor. The blades were made of carbon fiber, fiberglas, and foam with boron added to match the full-scale counterparts blade stiffness. The rotor system characteristics are listed in Table 1. During this test, the rotor system was operated in the thrust up (wake down) conventional U.S. rotation mode (counterclockwise as viewed from above).

Test rig vibration was sensed from two clusters of three orthogonally mounted 5 g accelerometers mounted on the rotor shaft housing. One cluster was mounted just below the stationary swashplate, and the other set on the main body of the test rig. Each accelerometer cluster aligned one accelerometer with the roll axis, one with the pitch axis, and one with the yaw axis.

The swashplate of the test rig was controlled by three actuator assemblies located at the 60°, 180°, and 300° azimuth positions (0° being aft). Each actuator assembly was comprised of a low-speed, full authority, electro-mechanical actuator connected in series with a high-speed, limited authority, electro-hydraulic actuator. The low-speed and high-speed actuators could be operated simultaneously to provide both types of motion at once. In this manner, the high-speed actuators could superimpose higher harmonic control signals onto the low-speed actuator command signals used to trim the rotor.

The rotor test rig was controlled from a control console placed in the underground control room. This control console displayed the collective, lateral, and longitudinal flapping position of the rotor as well as the commanded and actual collective, lateral, and longitudinal cyclic pitch signal commanded by the low-speed actuators. Though the console was capable of mixing collective, lateral, and longitudinal command signals for both the high-speed and the low-speed actuators, only the low-speed actuators were controlled from the console during this test. The positions of the high-speed actuators were independently controlled by the computer-based controller to be described below.

## Multicyclic Control Computer System

The Multicyclic Control Computer System (MCCS) was used to command the positions of the three high-speed actuators. This control system uses an array processor to

perform intensive closed-loop control computations in real-time, while a host computer coordinates nonreal-time events and supports the general operating system. The MCCS controller can take in up to 64 analog input signals and generate up to 8 analog control outputs. The operating system of the host processor supports a multi-tasking environment in which one program is used to control the array processor while another program is used to monitor the nonreal-time (or user) environment. This leaves the array processor free to execute closed-loop control programs in real-time, since it need not contend with any nonreal-time events. Moreover, the system has capitalized on the use of programmable interfaces to create an optimum parallel processing environment. The use of these interfaces between the array processor and its analog-to-digital and digital-to-analog converter units allows data acquisition and control output to occur in parallel with array processor computation. The converters can be set up to run in a double-buffered mode of operation so that a continuous data transfer rate of 1 MHz 8-bit words can be sustained. The general architecture of the MCCS is illustrated in Figure 3. A complete description of the MCCS controller and its high-speed design methodology is discussed fully in Reference 2.

## CONTROL COMPUTER AND ROTOR RIG SYNCHRONIZATION

The first test objective was to determine whether the MCCS control system could interface itself properly with the rotor test rig. To interface successfully, the MCCS had to be able to determine the 4/Rev sine and cosine coefficients of the input accelerometer signals, and be able to generate 4/Rev actuator control signals to control the higher harmonic position of the swashplate. (The phase of the vibration inputs and control outputs were taken relative to the tail of the test rig, which was defined as zero azimuth.) Synchronization of the control computer to the rotor test rig was accomplished using two phototachometers.

One phototachometer produced 128 evenly spaced pulses per rotor revolution and was used to trigger the analog-to-digital and digital-to-analog converters. This tachometer slaved the control system to the rotor, so that with each rotor revolution, the same number of samples was taken, even if the rotor RPM fluctuated. This sampling rate provided 32 data points per 4/Rev cycle, thereby guarding against Fast Fourier Transform aliasing by vibration frequencies in the 5/Rev to 16/Rev range.

Knowledge of the reference blade location, needed for computer/rotor synchronization, was obtained by using a second phototachometer to generate a pulse every time the reference blade passed over the tail of the test rig. This 1/Rev signal was sampled along with the other accelerometer and strain gauge signals fed into the MCCS. By counting the number of samples between the start of the sampling window and the 1/Rev pulse, the Fourier coefficients from any arbitrarily chosen window of data could be related to those Fourier coefficients produced from a window of data started with the reference blade over the tail of the rig. The relationship between the Fourier transform pairs is given by the

expression:

$$\begin{pmatrix} A_{Ref} \\ B_{Ref} \end{pmatrix} = \begin{pmatrix} \cos \Phi & \sin \Phi \\ -\sin \Phi & \cos \Phi \end{pmatrix} \begin{pmatrix} A_W \\ B_W \end{pmatrix} \quad (1)$$

where,  $A_W$  and  $B_W$  are the sine and cosine Fourier coefficients from any arbitrary window of data,  $A_{Ref}$  and  $B_{Ref}$  are the equivalent Fourier coefficients for a window of data started with the reference rotor blade over the tail, and  $\Phi$  represents the angle between the reference tail position and the position of the reference blade when the window of data was begun.

The result of the synchronization testing was that the MCCS control system appeared to synchronize itself very well with the rotor system. The most notable examples of this were that the once-per-revolution signals, such as the blade pitch and blade flap signals remained fairly constant when the rotor was operating at a fixed flight condition. These signals demonstrated very little change in their Fourier spectrum over many rotor revolutions. In later system identification testing, synchronization was also evidenced by the ability of the MCCS to identify very similar transfer matrices for very similar operating conditions.

## HIGH-SPEED ACTUATOR PERFORMANCE TESTING

The objective of the high-speed actuator performance test was to document the ability of the high-speed actuators to impart an oscillatory 4/Rev component to the rotor blade pitch through means of swashplate oscillation. (The technique of introducing higher harmonic control through the swashplate has been well documented in Reference [3].) The testing of the high-speed actuators was done to make sure that they would be able to impart motions of correct amplitude and phase.

### Description of the Actuator Performance Test

All of the actuators were excited to move the swashplate in a collective mode while the rotor was spun at 1100 RPM ( $M_{Tip} = 0.36$ ). This RPM was selected because it was the fastest RPM (at the time) the computer-based controller could perform on-line system identification functions. The excitation signals were generated from a signal generator, as shown in Figure 4. The measured actuator position signals and the commanded actuator position signals were fed to the MCCS and to the oscilloscopes. Figure 5 illustrates the actuator feedback control loop and the points at which various signals were obtained for actuator performance analysis. As shown in Figure 5, the feedback error signals drive the actuators and are formed as the difference between the reference position command signals and the measured position feedback signals. Thus, when the measured actuator position voltage and the commanded actuator position voltage are not the same, an error

or difference voltage is produced to drive the actuators to the point of zero position error. During this test, the MCCS acquired the data points and produced the amplitude versus phase plots for the actuators. Since the frequency of excitation was varied and the rotor speed was held constant, it was necessary to have a second signal generator supply the trigger signal to drive the analog-to-digital converter of the MCCS so that the sampling rate could be changed during frequency sweeps. Changing the sampling rate was necessary to obtain samples with sufficient numbers of data points over the range of frequencies tested (1 - 130 Hz).

Most of the frequency response testing was done using substitute masses instead of actual rotor blades. These masses were termed "club blades" and had roughly the same inertia as the actual rotor blades. The club blades were used to avoid damaging the actual rotor blades, in the event a large resonance condition was encountered. At the end of the frequency response testing, a test case using the actual blades was done to show that the use of club blades did not bias the frequency response test results. The use of club blades also allowed direct measurement of pitch angle with a clinometer for the special case of zero rotor RPM and DC excitation. At this condition the actuators were verified to give  $\pm$  3.0 degrees blade root pitch motion for  $\pm$  9.0 volts command excitation.

The actuator performance testing was performed by giving the actuators sinusoidal command signals of constant amplitude while sweeping in frequency from 1 to 130 Hz. All three actuators were excited with the same input commands so that the swashplate moved in a collective fashion. The rotor was spun at 1100 RPM. The actuators were initially excited with voltages of  $\pm$  1.0,  $\pm$  2.0,  $\pm$  3.0,  $\pm$  4.5,  $\pm$  6.0,  $\pm$  7.5, and  $\pm$  9.0 volts. Were there no increase or decrease in response amplitude with increasing excitation frequency, these voltages would correspond to  $\pm$  0.33,  $\pm$  0.66,  $\pm$  1.0,  $\pm$  4.5,  $\pm$  6.0,  $\pm$  7.5, and  $\pm$  9.0 degrees of blade pitch motion. Due to a resonance condition in the 20 to 50 Hz range, however, the  $\pm$  7.5 and  $\pm$  9.0 volt cases were started at 55 Hz, except for an initial data point at 1 Hz. The 1 Hz data point was used as a reference point for the amplitude vs frequency calculations.

## Actuator Test Results

The frequency response of the high-speed actuators is presented in Tables 2 through 8 and is shown graphically in Figures 6 through 12. These tables and figures present actuator response data which were obtained by holding the excitation amplitude constant, while sweeping in frequency. It can be seen that as the frequency of excitation is increased, the response amplitude first grows and then attenuates. The frequency which demonstrates the greatest gain between input and output becomes progressively lower in frequency as the excitation amplitude is increased from  $\pm$  1.0 to  $\pm$  9.0 volts. Figure 13 superimposes all of the amplitude plots of Figures 6 - 12 so that an easy comparison can be made. Note that in this figure, that the ratio of output to input has been plotted. In Figure 14, the same plot is made, but with the amplitudes plotted in computer counts rather than in the normalized format. (The term "computer counts" refers to the absolute digital

representation of the measured feedback signal, where 1380 counts represents a deflection of  $\pm 3.0$  degrees.) From this figure it can be seen that as the frequency of excitation is increased, a point is eventually reached where increasing the input amplitudes will produce no further increase in the response amplitude. For example, referring to Figure 14, at 50 Hz input excitation, the actuators output roughly proportionate amplitudes for  $\pm 1.0$ ,  $\pm 2.0$ , and  $\pm 3.0$  volts input amplitude, but for  $\pm 4.5$  and  $\pm 6.0$  volts, the output amplitude is the same. Above 80 Hz, all input voltages greater than or equal to  $\pm 1.0$  volts produce the same output motion.

Appendix B presents all of the data obtained during the high-speed actuator testing. The data are presented in two formats. First, an analog representation of the frequency response data is given for each data point. Then a tabular and graphical summary is presented, following the analog data. Table B1 presents the organization of Appendix B. The analog data reveals that the response frequency is always the same as the excitation frequency, so that no non-linear distortion has occurred. The phase between the input and output signals is not important, so long as it is constant for any given excitation condition. (This is true because the intended frequency domain controller can account for any phase lags, as long as they are known.)

All of the above results were obtained using the position feedback signal of the 300 degree actuator. To see to what extent this may have biased the results, the  $\pm 3.0$  volt excitation case was repeated using the 60 degree and 180 degree actuator position feedback signals. Figure 15 shows the three three actuator response versus frequency plots. Though the plots differ in shape to a certain degree, the basic trend is preserved.

## Discussion of Actuator Performance

Though the RTR high-speed actuators were designed to produce  $\pm 3.0$  degrees of blade pitch motion up to 20 Hz, (Reference [1]), this test has shown that this can in no way be done up to the 1910 RPM blade passage frequency of 127 Hz. In fact, full  $\pm 3.0$  degrees of blade pitch motion is possible only up to about 25 Hz. Looking at Figure 14, two important phenomena can be seen. First, the low frequency regime demonstrates that a resonant condition exists, in which the actual blade pitch motion obtained is greater than that which was commanded. For example, though  $\pm 6.0$  volts input at 1 Hz produces  $\pm 2.0$  degrees of blade pitch motion, the same  $\pm 6.0$  volts input at 37 Hz produces over  $\pm 7.0$  degrees of blade pitch motion. The second phenomenon shown in Figure 14 is that as the excitation frequency is increased, the ability of the actuators to respond proportionately is diminished. For example, at 20 Hz, distinct and proportional amplitudes are obtained for each of the  $\pm 1.0$ ,  $\pm 2.0$ ,  $\pm 3.0$ ,  $\pm 4.5$ , and  $\pm 6.0$  volt input cases, but at 70 Hz, voltages above  $\pm 1.0$  volts produce the same amplitude of actuator response.

The  $\pm 7.5$  and  $\pm 9.0$  volt input excitation cases (corresponding to  $\pm 2.5$  and  $\pm 3.0$  degrees at 1 Hz) were not performed below 55 Hz for fear of exciting the actuators too violently. At 1 Hz, these input voltages did produce  $\pm 2.5$  and  $\pm 3.0$  degrees of blade pitch

motion. However, between 20 and 55 Hz, input voltages a little over  $\pm$  6.0 volts produced more than  $\pm$  3.0 degrees of blade pitch motion because of the resonance condition. When this occurred, the position feedback transducers on the actuators saturated (i.e., they produced no further voltage increase) and it appeared to the actuator control circuitry that the actuator had stopped moving. This then caused the actuator servo controllers to behave erratically. Therefore, to avoid damaging the actuators or rotor, testing between 20 and 55 Hz was not done higher than  $\pm$  6.0 volts.

Noting from Figure 14, however, that the resonance peak appears to increase and move to lower frequencies for increased amplitude excitation, it is reasonable to conclude that  $\pm$  3.0 degrees of blade pitch motion could be obtained up to about 25 Hz. Motion of  $\pm$  2.0 degrees (6.0 volts curve) can be had up to about 40 Hz. Figure 14 also shows that after 40 Hz, the maximum available actuator motion achievable falls off rapidly. At an excitation frequency of 65 Hz, only  $\pm$  1.0 degrees of blade pitch motion can be produced, and at 105 Hz, only  $\pm$  0.33 degrees of pitch can be produced. These results are summarized in Table 9.

These findings indicate that if the rotor was spun at its full design speed of 1910 RPM, that very little 4/Rev HHC pitch control would be available. This is because the 4/Rev HHC forcing frequency required for that RPM would be about 127 Hz, where only about  $\pm$  0.33 degrees of pitch motion is obtainable. Moreover, it was further documented (see Figures 17 and 18) that the HHC pitch control system had about  $\pm$  0.10 degrees of hysteresis or lost motion due to free play. This makes it difficult to modulate the control amplitude below  $\pm$  0.10 degrees.

Although the exact cause of why the actuators did not respond to the higher frequency inputs is unknown, it is possible to speculate that the problem is one of too much inertia force on the actuators. The source of the inertia loading is the hydraulic fluid which must be pushed through the lines and the mass of the swashplates, pitchlinks, and rotor blades which must be oscillated at high frequency. Neglecting the hydraulic resistance, the inertia force on the actuator pushrod,  $P_A$ , can be calculated using Newton's  $f = ma$  relationship as

$$P_A = I_b \ddot{\Theta}_b + I_c \ddot{\Theta}_c + I_{pr} \ddot{\Theta}_{pr} + I_{sp} \ddot{\Theta}_{sp} \quad (2)$$

where,

$$\ddot{\Theta} = (2\pi f)^2 \Theta_{Max.\text{Displacement}} \quad (3)$$

and  $\ddot{\Theta}$  represents angular acceleration about the rotor spindle axis. (See Reference [4] for greater details.) The important thing to see from equations 2 and 3 is that the inertia loads are proportional to the square of the excitation frequency,  $f$ . Reference [4] presents calculations to support that at  $\pm$  1.0 degrees, 40 Hz operation, the pushrod loads are  $\pm$  80 N; well within the "do not exceed" limit of  $\pm$  555 N oscillatory loading. This would not be true for 127 Hz operation, where pushrod loads on the order of  $\pm$  800 N would be encountered, clearly exceeding the maximum allowed pushrod load limit. Since the RTR high-speed actuators experience ten times the inertia loading at 127 Hz than they do at 40 Hz, it is possible that the actuators would not be able to react the inertia loads at

high frequencies. Table 10 presents the maximum higher harmonic blade pitch oscillation that the pushrods can support at a given frequency. Up to 60 Hz,  $\pm 3.0$  degrees blade pitch can be withstood. Above 60 Hz, the blade pitch amplitude would have to be reduced to keep the pushrod loads below 550 N. Though the current RTR high-speed actuators cannot produce this kind of loading (Table 9), Table 10 demonstrates that more than just the actuators would need to be replaced if more than  $\pm 0.66$  degrees blade pitch excitation were desired at the 1910 RPM ( $4/\text{Rev} = 127 \text{ Hz}$ ,  $M_{Tip} = 0.63$ ), where the RTR S-76 blades are dynamically and Mach scaled.

For excitation frequencies where the loads do not exceed the pushrod the limit, larger positioning commands (greater forcing) might compensate to some extent for diminished actuator response. However, as can be seen from Appendix B, making the applied feedback command signals larger works only at the lower frequencies, or until the maximum feedback signal amplitude of  $\pm 10$  volts is produced, after which larger amplitude motion is not possible. For example, comparing the position feedback commands on pages B48, B50, B54, and B59 of Appendix B, it is seen that the actuator position commands have become very steep and slightly truncated at their maximum amplitude. The error driving signals exceed their maximum allowed value of 10 volts half peak-to-peak (HPP), resulting in a clipping of the commanded feedback signals. These figures show that at the higher frequencies, the feedback commands are at their same maximum value, and that the response is smaller due to increased system inertia at the higher frequencies. Appendix B may be examined to find other similar cases.

As a last point, Figure 15 illustrates that the high-speed actuator performance was not strictly identical for each actuator. Though the gross fall-off of amplitude with increasing frequency was seen to be common for all of the actuators, it does demonstrate that the actuators were not dynamically tuned to each other. Though the control system could adapt to this situation, tuning of the actuators to behave the same is desirable to avoid crossing or mixing the lateral, longitudinal, and collective controls.

## OPEN-LOOP SYSTEM IDENTIFICATION

The next phase of the test attempted to determine the coefficients of system models relating the  $4/\text{Rev}$  harmonics of measured fuselage vibration to the applied  $4/\text{Rev}$  higher harmonic excitation commands in a process referred to as system identification. With this information, the controls needed to alleviate the vibration could theoretically be calculated. Though models for the control of helicopter vibration have been proposed for both the time and the frequency domains (References [5], [6], [7], and [8] give a few), only the local and global frequency domain models were identified during this test. The motivation for doing this was to find models useful to control the largest element of helicopter vibration, the  $N/\text{Rev}$  component, where  $N$  is the number of blades in the rotor. By oscillating the blade pitch at  $N/\text{Rev}$ , the  $N/\text{Rev}$  vibration might be reduced or alleviated by modifying the

blade aerodynamic loading in a favorable fashion. This is most conveniently accomplished in the frequency domain.

The system identification studies conducted at the OARF, therefore, sought to identify frequency domain models relating the N/Rev harmonics of vibration to the N/Rev harmonics of control applied to the swashplate. Since the rotor inflow in hover is symmetrical, no significant 4/Rev vibration was expected to be available for control. Hence, system identification was, in essence, an academic exercise, since it was never intended to apply any control to reduce the vibration. These identification studies were useful, however, in exercising the MCCS computer and in seeing how much vibration could be produced in hover using active controls to obtain a measure of system controllability.

Figure 16 illustrates the meaning of the nomenclature used in the system identification discussion. Here,  $z$  represents a  $(2n \times 1)$  vector of N/Rev sine and cosine coefficients of the measured vibration ( $g$ ), where  $N$  is the number of blades in the rotor, and  $n$  is the number of accelerometers distributed on the fuselage or test rig. The higher harmonic control input vector,  $\theta$ , is a  $(6 \times 1)$  vector of the N-1/Rev, N/Rev, and N+1/Rev sine and cosine coefficients of the rotating reference frame. (The sine and cosine components contain the same information as magnitude and phase for any single signal frequency component.) The interested reader is encouraged to review Reference [3] which fully describes the linear relationship between the sine and cosine coefficients of collective, lateral, and longitudinal swashplate oscillation at N/Rev and the sine and cosine coefficients of N-1/Rev, N/Rev, and N+1/Rev blade pitch motion relative to the rotating reference frame.

For the system identification studies, two forms of frequency domain models were used to relate  $z$  to  $\theta$ . These models were the local and global frequency domain models. The local model consisted of a single matrix relating small changes in the fuselage vibration measurement vector,  $\Delta z$ , to small changes in the higher harmonic pitch control vector,  $\Delta\theta$ . In matrix notation, this relationship may be written

$$\Delta z(k) = T_{Local} \Delta\theta(k) \quad (4)$$

where  $k$  denotes the computation step and  $T_{Local}$  represents the local transfer matrix. In this context,  $\Delta z$  is a column vector used to represent the difference between the N/Rev Fourier vibration coefficients over two successive steps. Similarly,  $\Delta\theta$  is a column vector whose elements represent the difference in the N+1/Rev, N/Rev, and N-1/Rev blade pitch coefficients from one step to the next. The local model is referred to as being "quasi-static", because the assumption is made that over a sufficiently short time interval, the local  $T$  matrix is an adequate representation of the vibration/control dynamics. The time interval over which this model is valid depends upon the steadiness of the helicopter flight condition, and may be as short as one rotor revolution for conditions involving abrupt maneuvers. The other type of model identified was the global model, represented as

$$z(k) = T_{Global}\theta(k) + z_0(k) \quad (5)$$

where  $z_0$  is a vector of sine and cosine coefficients representing the N/rev vibration present when no higher harmonic control is applied. This model is termed the global model

because it uses one transfer matrix to relate all control levels to all vibration levels at all operating conditions. If the helicopter environment were perfectly linear, the global and local  $T$  matrices would likely be the same for any operating condition, assuming perfect identification of  $T$ . Hence, an indirect measurement of the degree of nonlinearity existing between the HHC pitch control inputs and the vibration outputs is the similarity of the local and global models for a given operating condition. The more different these models are, the greater the nonlinearity between vibration and control.

In the test conducted at the OARF, a local model of dimension (12 x 6) and a global model of dimension (12 x 7) were identified at two different operating conditions using batch lengths of 24 and 36 measurements. Different batch sizes were used to assess the effects of batch size on the identification process. Generally, up to a certain point, the greater the batch size, the more accurate the estimate. (For no measurement noise, the minimum number of required measurements equals the numbers of unknowns in each row of the transfer matrix.) The procedure used to identify the transfer matrices was the ordinary least square error (LSE) method. Appendix C presents a derivation of this important technique (known since the early 1800's) in terms of the system model and symbols used in this report (see Reference [9] for details). It shall suffice here to note that for the local model, the ordinary least squares formula is given by the expression:

$$T_{Local} = \Delta Z \Delta \Theta [\Delta \Theta^T \Delta \Theta]^{-1} \quad (6)$$

where  $\Delta Z$  represents the vibration measurement matrix defined to be

$$\Delta Z = \begin{pmatrix} \Delta z_{1,1} & \Delta z_{1,2} & \dots & \dots & \dots & \Delta Z_{1,m} \\ \dots & \dots & \dots & \dots & \dots & \dots \\ \dots & \dots & \dots & \dots & \dots & \dots \\ \dots & \dots & \dots & \dots & \dots & \dots \\ \dots & \dots & \dots & \dots & \dots & \dots \\ \Delta z_{2n,1} & \Delta z_{2n,2} & \dots & \dots & \dots & \Delta Z_{2n,m} \end{pmatrix} \quad (7)$$

meaning an (2n x m) matrix whose  $m$  columns are the  $m$  number of vibration measurements taken from the "n" accelerometers, and where  $\Delta \Theta$  represents an (m x 6) matrix of the corresponding  $m$  control inputs,

$$\Delta \Theta = \begin{pmatrix} \Delta \theta_{1,1} & \Delta \theta_{1,2} & \dots & \dots & \dots & \Delta \theta_{1,6} \\ \dots & \dots & \dots & \dots & \dots & \dots \\ \dots & \dots & \dots & \dots & \dots & \dots \\ \dots & \dots & \dots & \dots & \dots & \dots \\ \dots & \dots & \dots & \dots & \dots & \dots \\ \Delta \theta_{m,1} & \Delta \theta_{m,2} & \dots & \dots & \dots & \Delta \theta_{m,6} \end{pmatrix} \quad (8)$$

This matrix has six columns corresponding to the cosine and sine coefficients of the longitudinal, collective, and lateral N/Rev pitch command vector. The least squares formula for the global model is given by

$$T_{Global}^* = Z \Theta^* [\Theta^{*T} \Theta^*]^{-1} \quad (9)$$

The asterisk denotes that the global matrix is an augmented matrix, formed by appending the uncontrolled vibration vector,  $z_0$ , to the  $(2n \times 6)$  global transfer matrix,

$$T_{Global}^* = \begin{pmatrix} t_{1,1} & \dots & \dots & t_{1,6} & z_{0_1} \\ t_{2,1} & \dots & \dots & t_{2,6} & z_{0_2} \\ \dots & \dots & \dots & \dots & \dots \\ \dots & \dots & \dots & \dots & \dots \\ t_{2n,1} & \dots & \dots & t_{2n,6} & z_{0_{2n}} \end{pmatrix} \quad (10)$$

and where  $\Theta^*$  is defined to be

$$\Delta\Theta = \begin{pmatrix} \Delta\theta_{1,1} & \Delta\theta_{1,2} & \dots & ldots & \dots & \Delta\theta_{1,6} & 1 \\ \dots & \dots & \dots & \dots & \dots & \dots & \dots \\ \dots & \dots & \dots & \dots & \dots & \dots & \dots \\ \dots & \dots & \dots & \dots & \dots & \dots & \dots \\ \dots & \dots & \dots & \dots & \dots & \dots & \dots \\ \Delta\theta_{m,1} & \Delta\theta_{m,2} & \dots & \dots & \dots & \Delta\theta_{m,6} & 1 \end{pmatrix} \quad (11)$$

## Description of the System Identification Test

Identification of the local and global models was performed at 550 and 1100 RPM ( $M_{Tip}$  of 0.18 and 0.36) for different batch sizes and different excitation levels. Table 11 presents the conditions under which system identification was studied.

The 4/Rev controls chosen to excite the high-speed actuators have been listed in Appendix D, Table D2, in terms of their sine and cosine components of collective, lateral, and longitudinal 4/Rev blade pitch (with respect to the fuselage reference frame). These commands were generated as a series of random number combinations. The amplitude of the controls was carefully modulated, taking care to scale the numeric values of the commands so that the transfer matrix elements would be near unity for an anticipated 0.5 g vibration level. This was done to reduce the chances of numerical error in the transfer matrix calculation. These commands were fed to the actuators and the vibration responses were carefully recorded. The bulk of Appendix D contains the vibratory data recorded for all six input channels. Although most of this data is presented in terms of the first twelve sine and cosine coefficients of the input channels, the first data points are presented as analog traces as well, to give the reader an idea of the signal quality.

Since good actuator control was needed at the 4/Rev (N/Rev) excitation frequency, operation at the Mach-scaled 1910 RPM speed was not feasible with the frequency response afforded by the high-speed actuators. At 1100 RPM, the actuators were incapable of responding to 4/Rev frequency (73.3 Hz) inputs above  $\pm 1.0$  volts ( $\pm 0.33^\circ$ ), as documented by the actuator performance test. However, at 1100 RPM the control appeared to have good linearity, as shown in Figure 17. This plot was obtained by performing additional

frequency response testing at 73.3 Hz and 1100 RPM. Because the HHC excitation level at 1100 RPM was limited to only  $\pm 0.33$  degrees, identification testing at 550 RPM was also performed. At 550 RPM, a fairly linear control region was found to exist up to  $\pm 6.0$  volts input, corresponding to  $\pm 2.0$  degrees of blade pitch motion, as shown in Figure 18. The disadvantage of testing at 550 RPM is that the aerodynamic forces are only about 8 percent of the 1910 RPM values.

At all test conditions, the excitation commands were applied by the MCCS to each of the high-speed actuators and a data point was taken long after the control transients had died away. In addition to taking the required number of measurements for the LSE batch calculation, three additional measurements were taken to evaluate the effect of measurement noise on the transfer matrix calculation. Hence, after the initial transfer matrix calculation, a new command was given to the rotor, and the oldest control and measurement within the batch was replaced by the new ones. Though it was expected that this would change the matrix, the matrix coefficients were repeatable to three decimal places in nearly all cases.

## System Identification Results and Discussion

Seven matrices were identified by the open-loop least squares identification method and are shown in Tables 12 through 18. These matrices are the transfer or "T" matrices which relate the measured 4/Rev vibration to the applied 4/Rev swashplate perturbations. The values in these matrices represent an averaged value, since at each test condition the matrices were identified three times. Though averaging the matrices assisted in finding values for oscillatory elements in a few cases, it did not cause a change the first two decimal places in most cases. Appendix E presents the actual transfer matrices identified at each of the three identifications runs. It should be mentioned here that as a result of instrumentation losses during the test, it was not possible use exactly the same vibration sensor locations for each transfer matrix. In some of the transfer matrices, a normal force signal from the rotor balance or a pitch link load signal was substituted in lieu of an accelerometer input which was no longer available.

The first model identified was the local model at 550 RPM using a least squares batch size of 48 and an excitation amplitude of  $\pm 6.0$  volts ( $\pm 2.0^\circ$ ). It is interesting to note (Table 12) that only a few of the elements are significantly greater than zero. If many of the matrix elements were zero, with some large values (i.e., near unity), it could be surmised that the relationship between the applied excitation commands and the measured vibration could be represented by a model having fewer parameters. However, the fact that all of the matrix elements are small indicates that the applied controls produced very little vibration. The MCCS control computer was scaled to produce matrices with elements near unity when vibration of about 0.5 g was encountered. The small matrix elements thus indicate that only a small amount of vibration (0.01 g) is produced for even large control inputs. This could mean either that the RTR has a high impedance for the 4/Rev

vibration, or that the aerodynamic forces produced by the HHC control inputs are very small in hover.

The identification process was then repeated using only one half the excitation input, or  $\pm 3.0$  volts. This transfer matrix is presented in Table 13. Comparing Tables 12 and 13, it can be seen that the matrices are similar. In fact, the magnitudes of the larger elements in Table 13 are about half of those in Table 12, corresponding to the half amplitude excitation used in this case. This similarity seems to indicate that the MCCS control system interfaced properly with the rotor system and that there is a discernible relationship between the applied control inputs and the vibration outputs. Though many of the elements having smaller magnitudes do not appear to agree in Tables 12 and 13, it could be that the measurement noise is too large relative to the small values of these elements. This would prevent accurate determination of these values, unless a very large batch size was used in the least squares calculation. Since the larger elements do show a definite pattern, it is likely that the relationship between the vibration and control is there, but that it is very small. Note also from Figure 14 that at the (550 RPM) 4/Rev frequency of 36 Hz that  $\pm 3.0$  volts produces slightly more than  $\pm 1.0$  degrees of blade pitch motion.

The next matrix identified was the global matrix using a least squares batch size of 48 and an excitation amplitude of  $\pm 6.0$  volts ( $\pm 2.0^\circ$ ). This matrix is shown in Table 14, and is similar to the local models shown in Tables 12 and 13. The similarity of this global matrix to the local model matrix obtained at  $\pm 3.0$  volts ( $\pm 1.2^\circ$ ) amplitude indicates that the linearity is relatively constant throughout the input range. The last column in Table 14 is the identified vibration level for no control input, or  $z_0$ , mentioned earlier. Alternatively, this column represents the vibration that would be experienced at the 550 RPM flight condition for no control input. For the numbers in the last column, 20.0 counts corresponds to about 0.025 g of vibration. The fourth channel, which showed the largest uncontrolled RMS vibration level, measured only 5.92 counts of vibration, or 0.0074 g. This low level of vibration was most likely the result of operating the rotor in hover, where vibrations are expectedly low, and also the result of spinning the rotor at low speed.

The local and global matrices were then identified again at 1100 RPM. Even though only  $\pm 1.0$  volts ( $\pm 0.33^\circ$ ) excitation could be applied at this operating condition, the resulting aerodynamic forces were expected to be greater. Table 15 shows the local model identified using  $\pm 1.0$  volts excitation and a least squares batch size of 36. The matrix differs significantly from the ones identified at the lower RPM. The global model, Table 16, identified using the same batch size and same excitation amplitude also differed from its 550 RPM counterpart. Comparing Tables 15 and 16, the global and local models at 1.0 volt forcing amplitude are seen to be very similar in the first six columns. The last column of Table 16 shows the uncontrolled vibration level, which appears to have increased substantially. The second channel provides the largest 4/Rev RMS vibration with 23.16 counts, or about 0.029 g. Hence, the increase in rotor speed appears to have changed the aerodynamic blade loading to make for higher vibrations.

The local model identification at 1100 RPM was repeated using  $\pm 0.5$  volts amplitude

excitation. The resulting matrix, shown in Table 17, was found to be different than the local matrix of Table 15. Because it is different from the local model obtained using  $\pm$  1.0 volt excitation, it might indicate that between  $\pm$  0.5 and  $\pm$  1.0 volts a significant nonlinearity exists. Alternatively, since the maximum blade pitch motion for  $\pm$  0.5 volts excitation at 1100 RPM is only about  $\pm$  0.15 degrees, the decreased signal-to-noise ratio at the lower excitation level may have corrupted the result. This latter contention is at least partly supported by the fact that the matrix element magnitudes are smaller for the 0.5 volt excitation case than for the corresponding 1.0 volt excitation case. (The matrix elements become smaller with increasing noise level, with pure random noise input producing a matrix of zeros, since no positive or negative trend from the mean would exist in the frequency domain.)

The global model was identified again using a batch size of 48 and the same excitation amplitude of 1.0 volts ( $\pm 0.33^\circ$ ). The resulting matrix, presented in Table 18, compares well with the previous global matrix shown in Table 16. Although there is some variation in magnitude, most elements of the two matrices have the same sign and are about the same magnitude. What is different is the last column, which represents the "z-zero" or vibration for no HHC control input. Although the RMS levels agree fairly well, the phase of the signals (i.e., relative sine and cosine term magnitudes) are completely different, perhaps indicative of a change in the ambient wind velocity and direction. Because the testing was performed in an uncontrolled (outside) environment, it is not possible to resolve this question. It is possible to speculate that the wind did change the vibration, since the other elements of the transfer matrix (influenced by system dynamics only) remained relatively constant.

In conclusion, though the relationship of the applied active controls to the measured vibration is identifiable, and repeatable, the small elements of the transfer matrix description imply controllability problems may exist. Reduced controllability might be explained on the basis of the RTR being simply too stiff to vibrate appreciably. A second possibility, however, is that the lack of controllability is only apparent at the hover condition or low rotor RPMs. If the rotor were spun at greater speeds in forward flight, the matrix elements might be much larger, owing to the asymmetry of the oncoming air stream and greater forcing levels. In forming conclusions on the basis of this study, it is important to note from the data in Appendix D that although the 4/Rev vibration coefficients increase with the level of 4/Rev forcing excitation, they are still not much larger than the coefficients of the other harmonics. Thus, the 4/Rev vibration measured during this test was quite likely affected by a high noise component, and was not really representative of any vibration phenomena that might have occurred in forward flight testing.

## CONCLUDING REMARKS

The OARF/RTR testing demonstrated the ability of the MCCS control system to interface properly with the rotor system and documented the capability of the RTR high-

speed actuators to implement higher harmonic control commands. It was also demonstrated that the higher harmonic control computer system (the MCCS) could keep track of the input accelerometer signals and their phase angles. The results of this study showed that the present high-speed actuators are incapable of providing sufficient control authority at the higher rotor speeds (1910 RPM). Since the measured vibration was very small at low RPMs, it is evident that testing at reduced rotor RPM in hover is not desirable, and may introduce a high degree of error into any conclusions drawn from such experimentation. Operation in a wind tunnel in forward flight may remedy this situation by providing more representative forcing levels and higher signal-to-noise ratios in the N/Rev vibration harmonics.

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**Table 1**  
**Rotor System Characteristics**

ITEM	SPECIFICATION
Radius	1.067 m
Chord	0.0629 m
Airfoils	SC1095/SC1095R8
Number of Blades	4
Twist	-10° linear
Solidity	0.0751

Table 2

Summary of actuator frequency response data for  
1.0 volts half peak-to-peak command input.

Frequency Per/Rev	Frequency In Hz	Magnitude In Counts	Relative Magnitude	Magnitude In ± Degs	Phase In Degs
	1.0	215	1.00	0.33	0
1.0/Rev	18.3	239	1.11	0.37	10
1.5/Rev	27.5	244	1.13	0.37	15
2.0/Rev	36.6	255	1.18	0.39	18
2.5/Rev	45.8	271	1.26	0.42	20
3.0/Rev	55.0	293	1.36	0.45	32
3.5/Rev	64.2	302	1.40	0.46	45
4.0/Rev	73.3	334	1.55	0.51	90
4.5/Rev	82.5	369	1.71	0.56	110
5.0/Rev	91.6	303	1.40	0.46	130
5.5/Rev	100.8	253	1.17	0.39	145
6.0/Rev	110.0	216	1.00	0.33	150
6.5/Rev	119.2	193	0.89	0.29	155
7.0/Rev	128.3	165	0.76	0.25	160

Table 3

Summary of actuator frequency response data for  
2.0 volts half peak-to-peak command input.

Frequency Per/Rev	Frequency In Hz	Magnitude In Counts	Relative Magnitude	Magnitude In $\pm$ Degs	Phase In Degs
	1.0	360	1.00	0.66	0
1.0/Rev	18.3	359	0.99	0.65	5
1.5/Rev	27.5	399	1.10	0.73	10
2.0/Rev	36.6	389	1.08	0.71	27
2.5/Rev	45.8	472	1.31	0.86	45
3.0/Rev	55.0	502	1.39	0.92	78
3.5/Rev	64.2	523	1.45	0.96	90
4.0/Rev	73.3	436	1.21	0.80	112
4.5/Rev	82.5	347	0.96	0.63	135
5.0/Rev	91.6	301	0.83	0.55	150
5.5/Rev	100.8	264	0.73	0.48	166
6.0/Rev	110.0	228	0.63	0.42	180
6.5/Rev	119.2	193	0.53	0.35	185
7.0/Rev	128.3	191	0.53	0.35	190

Table 4

Summary of actuator frequency response data for  
3.0 volts half peak-to-peak command input.

Frequency Per/Rev	Frequency In Hz	Magnitude In Counts	Relative Magnitude	Magnitude In ± Degs	Phase In Degs
	1.0	488	1.00	1.00	0
1.0/Rev	18.3	528	1.08	1.08	5
1.5/Rev	27.5	515	1.05	1.05	11
2.0/Rev	36.6	575	1.17	1.17	20
2.5/Rev	45.8	679	1.39	1.39	45
3.0/Rev	55.0	621	1.27	1.27	80
3.5/Rev	64.2	496	1.01	1.01	120
4.0/Rev	73.3	393	0.80	0.80	150
4.5/Rev	82.5	348	0.71	0.71	160
5.0/Rev	91.6	308	0.62	0.62	170
5.5/Rev	100.8	256	0.52	0.52	180
6.0/Rev	110.0	214	0.43	0.43	190
6.5/Rev	119.2	211	0.43	0.43	202
7.0/Rev	128.3	170	0.34	0.34	215

**Table 5**

Summary of actuator frequency response data for  
4.5 volts half peak-to-peak command input.

Frequency Per/Rev	Frequency In Hz	Magnitude In Counts	Relative Magnitude	Magnitude In $\pm$ Degs	Phase In Degs
	1.0	674	1.00	1.50	0
1.0/Rev	18.3	728	1.08	1.62	5
1.5/Rev	27.5	761	1.12	1.68	10
2.0/Rev	36.6	818	1.21	1.82	50
2.5/Rev	45.8	830	1.23	1.85	70
3.0/Rev	55.0	663	0.98	1.47	95
3.5/Rev	64.2	501	0.74	1.11	145
4.0/Rev	73.3	414	0.61	0.92	175
4.5/Rev	82.5	361	0.53	0.80	180
5.0/Rev	91.6	317	0.47	0.71	185
5.5/Rev	100.8	275	0.40	0.60	200
6.0/Rev	110.0	227	0.33	0.50	205
6.5/Rev	119.2	214	0.31	0.47	210
7.0/Rev	128.3	193	0.28	0.42	225

Table 6

Summary of actuator frequency response data for  
6.0 volts half peak-to-peak command input.

Frequency Per/Rev	Frequency In Hz	Magnitude In Counts	Relative Magnitude	Magnitude In ± Degs	Phase In Degs
	1.0	933	1.00	2.0	0
1.0/Rev	18.3	937	1.00	2.0	10
1.5/Rev	27.5	990	1.06	2.12	30
2.0/Rev	36.6	1108	1.18	2.36	50
2.5/Rev	45.8	793	0.84	1.68	90
3.0/Rev	55.0	648	0.69	1.38	135
3.5/Rev	64.2	516	0.55	1.10	175
4.0/Rev	73.3	401	0.42	0.84	180
4.5/Rev	82.5	354	0.37	0.74	185
5.0/Rev	91.6	322	0.34	0.68	190
5.5/Rev	100.8	271	0.29	0.58	200
6.0/Rev	110.0	263	0.28	0.56	210
6.5/Rev	119.2	222	0.23	0.46	220
7.0/Rev	128.3	195	0.20	0.40	235

**Table 7**

**Summary of actuator frequency response data for  
7.5 volts half peak-to-peak command input.**

Frequency Per/Rev	Frequency In Hz	Magnitude In Counts	Relative Magnitude	Magnitude In $\pm$ Degs	Phase In Degs
	1.0	1156	1.00	2.50	0
3.0/Rev	55.0	668	0.58	1.45	130
3.5/Rev	64.2	539	0.47	1.18	170
4.0/Rev	73.3	427	0.37	0.93	180
4.5/Rev	82.5	357	0.31	0.78	185
5.0/Rev	91.6	337	0.29	0.73	190
5.5/Rev	100.8	277	0.24	0.60	195
6.0/Rev	110.0	230	0.20	0.50	200
6.5/Rev	119.2	218	0.19	0.48	210
7.0/Rev	128.3	181	0.16	0.40	220

**Table 8**

**Summary of actuator frequency response data for  
9.0 volts half peak-to-peak command input.**

Frequency Per/Rev	Frequency In Hz	Magnitude In Counts	Relative Magnitude	Magnitude In $\pm$ Degs	Phase In Degs
	1.0	1378	1.00	3.0	0
3.0/Rev	55.0	653	0.47	1.41	150
3.5/Rev	64.2	518	0.38	1.14	175
4.0/Rev	73.3	416	0.30	0.90	180
4.5/Rev	82.5	349	0.25	0.75	185
5.0/Rev	91.6	354	0.26	0.78	190
5.5/Rev	100.8	274	0.20	0.60	195
6.0/Rev	110.0	237	0.17	0.51	205
6.5/Rev	119.2	199	0.14	0.42	210
7.0/Rev	128.3	185	0.13	0.39	220

Table 9  
Limitations of RTR High Speed Actuators

RTR High Speed Actuator Limitations		
± Degrees	Up To	Pushrod Loads*
3.00 °	25 Hz	94 N
2.50 °	30 Hz	113 N
2.00 °	40 Hz	160 N
1.50 °	55 Hz	227 N
1.00 °	65 Hz	211 N
0.66 °	80 Hz	213 N
0.33 °	105 Hz	184 N

\* Pushrod loads at maximum frequency for given displacement.  
RTR maximum pushrod oscillatory loading is 550 N.

Table 10  
Limitations of RTR Pushrods

RTR Pushrod Loading Limit		
Frequency	Maximum Blade Pitch	Oscillatory Pushrod Loads*
60 Hz	$\pm 3.00^\circ$	550 N
70 Hz	$\pm 2.25^\circ$	550 N
80 Hz	$\pm 1.75^\circ$	550 N
90 Hz	$\pm 1.35^\circ$	550 N
100 Hz	$\pm 1.10^\circ$	550 N
110 Hz	$\pm 0.92^\circ$	550 N
120 Hz	$\pm 0.77^\circ$	550 N
130 Hz	$\pm 0.66^\circ$	550 N

\* RTR maximum pushrod oscillatory loading is 550 N.

**Table 11**  
**Table of Transfer Matrix Parameters**

Model Type	Batch Size	Excitation Amplitude	Rotor RPM	Data Points	T Matrix Shown In
LOCAL	48	6.0 Volts*	550	420-471	Table 12
LOCAL	48	3.0 Volts	550	366-418	Table 13
GLOBAL	48	6.0 Volts	550	313-365	Table 14
LOCAL	36	1.0 Volts	1100	73-113	Table 15
GLOBAL	36	1.0 Volts	1100	114-154	Table 16
LOCAL	36	0.5 Volts	1100	32-72	Table 17
GLOBAL	48	1.0 Volts	1100	155-207	Table 18

\*  $\pm$  6.0 volts =  $\pm$  2.0 degrees at 550 RPM.

Table 12

Local Transfer Matrix obtained at 550 RPM using a batch size of 48  
and 6.0 Volts half peak-to-peak excitation ( $\pm 2.0$  degrees).

4/Rev	HHC Pitch Inputs					
Outputs	LONG,C	LONG,S	COLL,C	COLL,S	LAT,C	LAT,S
ACC1,C	-0.04	-0.02	-0.04	-0.01	+0.16	-0.10
ACC1,S	+0.04	-0.03	+0.03	-0.01	+0.09	+0.16
PLL1,C	+0.02	-0.02	-0.02	-0.19	+0.03	-0.04
PLL1,S	+0.02	-0.09	+0.10	+0.04	+0.01	-0.03
ACC3,C	-0.01	+0.05	+0.35	+0.04	-0.05	-0.02
ACC3,S	-0.01	+0.02	-0.02	+0.36	-0.01	-0.03
ACC4,C	+0.06	-0.05	+0.12	+0.05	-0.16	-0.01
ACC4,S	+0.02	+0.03	-0.04	+0.10	-0.03	-0.18
ACC5,C	+0.01	-0.07	+0.25	+0.11	-0.02	-0.05
ACC5,S	+0.07	+0.03	-0.11	+0.25	+0.02	-0.01
ACC6,C	+0.03	-0.06	+0.02	-0.12	+0.01	-0.01
ACC6,S	+0.06	+0.04	+0.11	+0.03	+0.00	+0.00

**Table 13**

Local Transfer Matrix obtained at 550 RPM using a batch size of 48  
and 3.0 Volts half peak-to-peak excitation ( $\pm 1.2$  degrees).

4/Rev	HHC Pitch Inputs					
Outputs	LONG,C	LONG,S	COLL,C	COLL,S	LAT,C	LAT,S
ACC1,C	-0.03	-0.01	-0.01	+0.00	+0.12	-0.08
ACC1,S	+0.02	-0.01	+0.01	+0.00	+0.07	+0.13
PLL1,C	+0.07	-0.07	-0.13	-0.10	-0.03	+0.03
PLL1,S	+0.03	-0.03	+0.08	-0.01	+0.08	-0.02
ACC3,C	+0.01	+0.02	+0.16	+0.05	-0.01	+0.01
ACC3,S	-0.03	+0.01	-0.04	+0.17	-0.01	-0.01
ACC4,C	+0.01	-0.05	+0.04	-0.02	-0.11	+0.10
ACC4,S	+0.02	+0.02	+0.00	+0.03	-0.11	-0.11
ACC5,C	-0.01	-0.03	+0.12	+0.08	-0.01	-0.01
ACC5,S	+0.03	+0.43	-0.08	+0.12	+0.01	+0.00
ACC6,C	+0.01	-0.03	+0.01	-0.05	+0.01	+0.00
ACC6,S	+0.03	+0.01	+0.04	+0.01	+0.01	+0.02

**Table 14**

Global Transfer Matrix obtained at 550 RPM using a batch size of 48  
and 6.0 Volts half peak-to-peak excitation ( $\pm 2.0$  degrees).

4/Rev	HHC Pitch Inputs						
Outputs	LONG,C	LONG,S	COLL,C	COLL,S	LAT,C	LAT,S	Z-ZERO
ACC1,C	-0.03	-0.05	+0.01	-0.01	+0.16	-0.10	+0.67
ACC1,S	+0.05	-0.04	+0.05	-0.02	+0.08	+0.18	-3.12
PLL1,C	+0.05	-0.02	+0.02	-0.10	+0.02	+0.01	+0.18
PLL1,S	+0.03	-0.01	+0.20	+0.01	+0.00	+0.05	-1.34
ACC3,C	-0.02	+0.05	+0.42	+0.11	-0.03	+0.00	+1.86
ACC3,S	-0.05	+0.00	-0.14	+0.42	+0.00	-0.02	+3.09
ACC4,C	+0.05	-0.01	+0.03	+0.01	-0.19	+0.02	-2.42
ACC4,S	-0.04	+0.05	-0.05	+0.04	+0.01	-0.21	+5.40
ACC5,C	+0.02	-0.08	+0.28	+0.15	-0.01	-0.02	+0.02
ACC5,S	+0.07	+0.04	-0.19	+0.28	+0.31	+0.00	+3.96
ACC6,C	+0.05	-0.05	+0.08	-0.14	+0.01	-0.01	-1.49
ACC6,S	+0.04	+0.04	+0.13	+0.06	+0.01	+0.02	+1.34

Table 15

Local Transfer Matrix obtained at 1100 RPM using a batch size of 36  
and 1.0 Volts half peak-to-peak excitation ( $\pm 0.33$  degrees).

4/Rev	HHC Pitch Inputs					
Outputs	LONG,C	LONG,S	COLL,C	COLL,S	LAT,C	LAT,S
ACC1,C	+0.12	-0.03	+0.31	-0.17	-0.33	+0.10
ACC1,S	-0.07	+0.13	+0.18	+0.31	-0.17	-0.28
ACC2,C	+0.39	+0.44	+0.21	-0.62	-0.22	+0.25
ACC2,S	-0.45	+0.46	+0.73	+0.08	-0.25	-0.26
ACC3,C	+0.02	-0.08	-0.16	-0.03	+0.10	+0.02
ACC3,S	+0.05	+0.00	+0.00	-0.12	-0.04	+0.08
PLL1,C	+0.00	+0.00	+0.00	+0.00	+0.00	+0.00
PLL1,S	+0.00	+0.00	+0.00	+0.01	+0.00	+0.00
ACC5,C	-0.12	+0.08	+0.12	+0.01	-0.01	+0.05
ACC5,S	-0.01	-0.19	+0.07	+0.15	-0.04	+0.00
N2BL,C	+0.01	+0.02	+0.01	-0.02	-0.02	+0.00
N2BL,S	-0.02	+0.01	+0.02	+0.02	-0.02	-0.02

Table 16

Global Transfer Matrix obtained at 1100 RPM using a batch size of 36  
and 1.0 Volts half peak-to-peak excitation ( $\pm 0.33$  degrees).

4/Rev	HHC Pitch Inputs						
Outputs	LONG,C	LONG,S	COLL,C	COLL,S	LAT,C	LAT,S	Z-ZERO
ACC1,C	+0.06	+0.06	+0.42	-0.11	-0.36	+0.06	+9.49
ACC1,S	-0.06	+0.13	+0.11	+0.31	-0.02	-0.34	+2.89
ACC2,C	+0.16	+0.66	+0.30	-0.67	-0.28	+0.15	+17.81
ACC2,S	-0.49	+0.22	+0.61	+0.12	-0.12	-0.24	+14.81
ACC3,C	+0.02	-0.05	-0.13	-0.02	+0.06	+0.05	-0.72
ACC3,S	+0.03	+0.04	+0.07	-0.10	-0.06	+0.09	+1.63
PLL1,C	+0.00	+0.00	+0.00	+0.00	+0.00	+0.00	+0.06
PLL1,S	+0.00	+0.00	+0.00	+0.00	+0.00	+0.00	-0.07
ACC5,C	-0.13	+0.05	+0.07	+0.00	+0.04	+0.01	-8.22
ACC5,S	+0.07	-0.16	-0.04	+0.11	+0.03	+0.01	-3.79
N2BL,C	-0.01	+0.02	+0.02	-0.02	-0.01	+0.02	+1.13
N2BL,S	-0.01	+0.00	+0.04	+0.01	-0.01	-0.03	+1.86

**Table 17**

Local Transfer Matrix obtained at 1100 RPM using a batch size of 36  
and 0.5 Volts half peak-to-peak excitation ( $\pm 0.15$  degrees).

4/Rev	HHC Pitch Inputs					
Outputs	LONG,C	LONG,S	COLL,C	COLL,S	LAT,C	LAT,S
ACC1,C	-0.05	+0.09	+0.05	-0.19	-0.05	+0.08
ACC1,S	+0.00	+0.02	+0.05	+0.05	-0.15	+0.02
ACC2,C	+0.07	+0.26	-0.02	-0.13	-0.03	+0.01
ACC2,S	-0.18	+0.22	+0.17	-0.04	-0.10	-0.05
ACC3,C	+0.01	-0.02	-0.09	-0.01	+0.01	+0.03
ACC3,S	+0.02	+0.02	-0.02	-0.06	+0.00	+0.02
PLL1,C	+0.00	+0.00	+0.00	+0.00	+0.00	+0.00
PLL1,S	+0.00	+0.00	+0.00	+0.00	+0.00	+0.00
ACC5,C	-0.07	-0.06	+0.17	+0.14	+0.07	-0.09
ACC5,S	-0.02	-0.04	-0.02	+0.07	+0.10	-0.04
N2BL,C	-0.01	+0.03	+0.01	+0.00	+0.02	+0.01
N2BL,S	+0.00	-0.01	+0.02	-0.01	-0.02	+0.00

Table 18

Global Transfer Matrix obtained at 1100 RPM using a batch size of 48  
and 1.0 Volts half peak-to-peak excitation ( $\pm 0.33$  degrees).

4/Rev	HHC Pitch Inputs						
Outputs	LONG,C	LONG,S	COLL,C	COLL,S	LAT,C	LAT,S	Z-ZERO
ACC1,C	+0.13	+0.01	+0.25	-0.15	-0.26	+0.10	-3.07
ACC1,S	-0.03	+0.13	+0.12	+0.34	-0.06	-0.27	+6.27
ACC2,C	+0.45	+0.45	-0.02	-0.57	-0.14	+0.34	-22.16
ACC2,S	-0.41	+0.38	+0.68	+0.02	-0.25	-0.19	+8.72
ACC3,C	+0.01	-0.04	-0.12	-0.04	+0.06	+0.02	-2.49
ACC3,S	+0.05	+0.01	+0.00	-0.11	-0.03	+0.11	-2.89
PLL1,C	+0.00	+0.00	+0.00	+0.00	+0.00	+0.00	+0.02
PLL1,S	+0.00	+0.00	+0.00	+0.00	+0.00	+0.00	+0.13
ACC5,C	-0.13	+0.08	+0.13	+0.04	+0.01	+0.03	+6.63
ACC5,S	+0.02	-0.17	+0.09	+0.16	-0.01	-0.03	+4.66
N2BL,C	+0.02	+0.01	+0.00	-0.03	+0.00	+0.02	-1.68
N2BL,S	-0.02	+0.02	+0.01	+0.00	-0.02	-0.01	-0.88

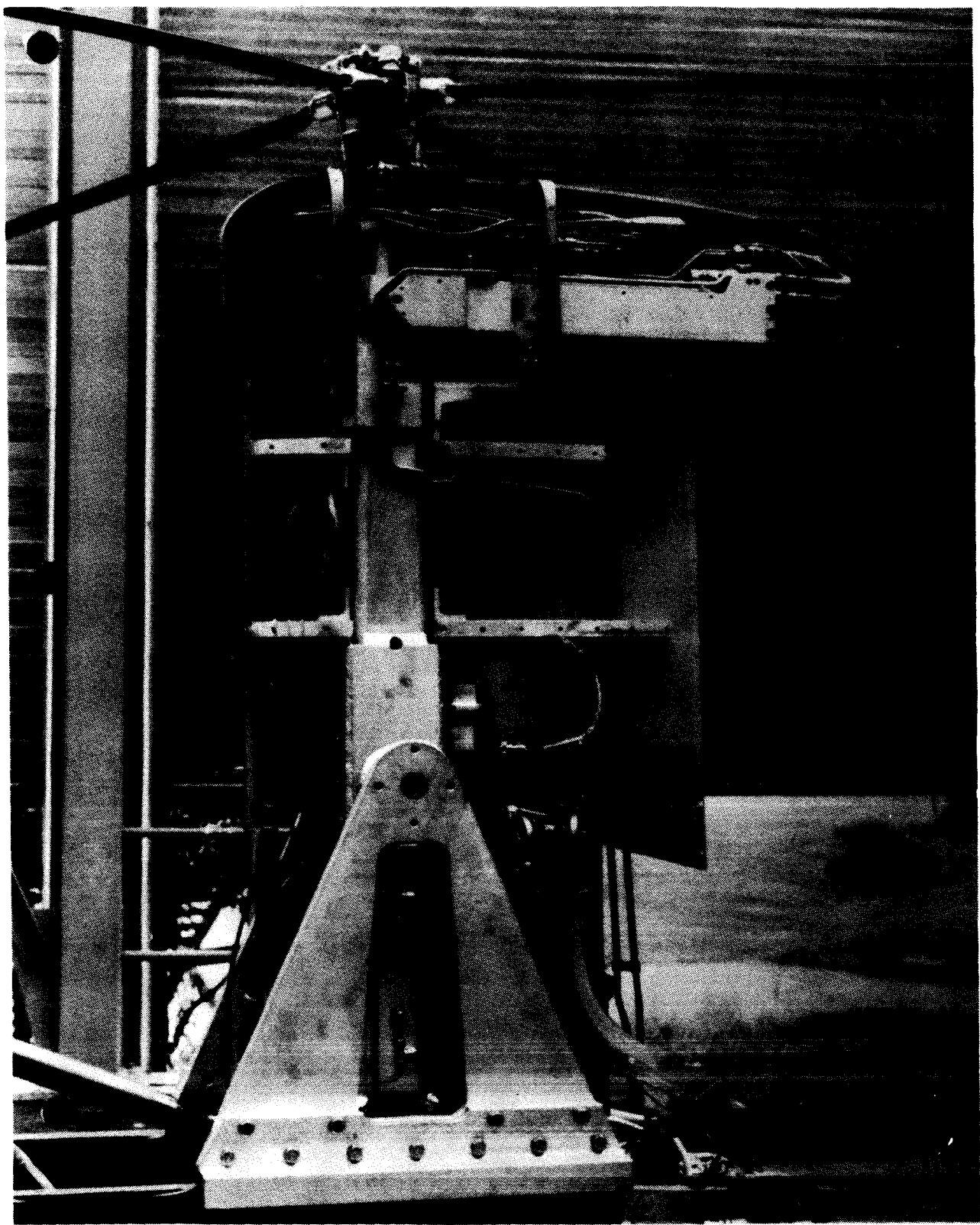


Figure 1

The Rotor Test Rig.

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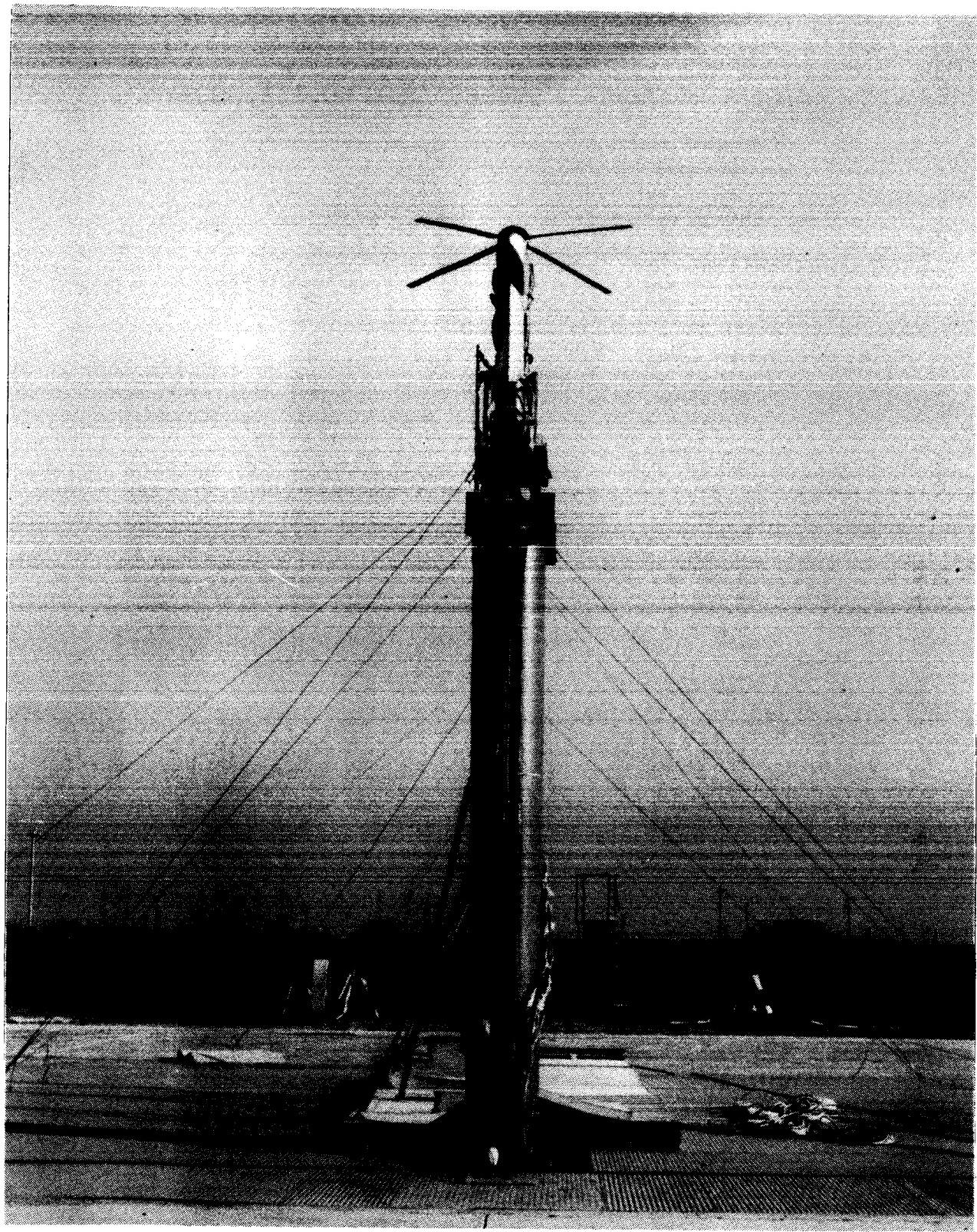


Figure 2  
The RTR Installed at the OARF.

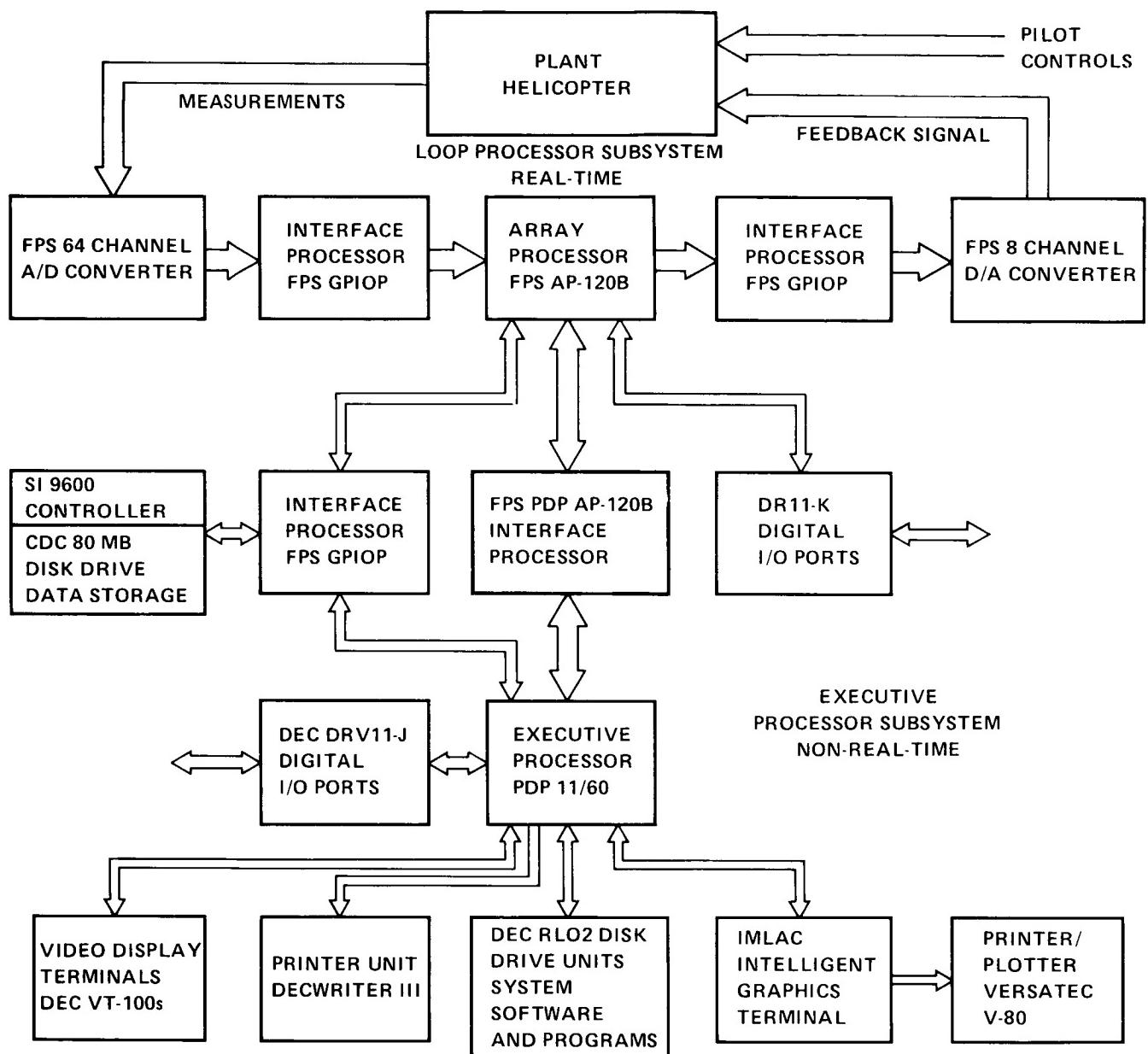


Figure 3

The Multicyclic Control Computer System.

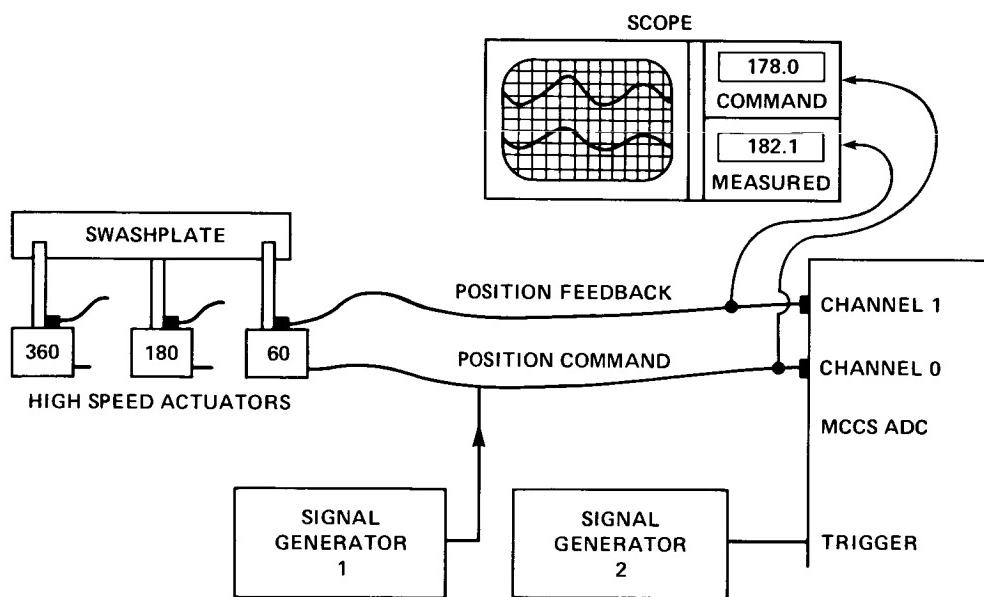


Figure 4

Test Setup for Test Actuators with Collective Mode Higher Harmonic Control Excitation.

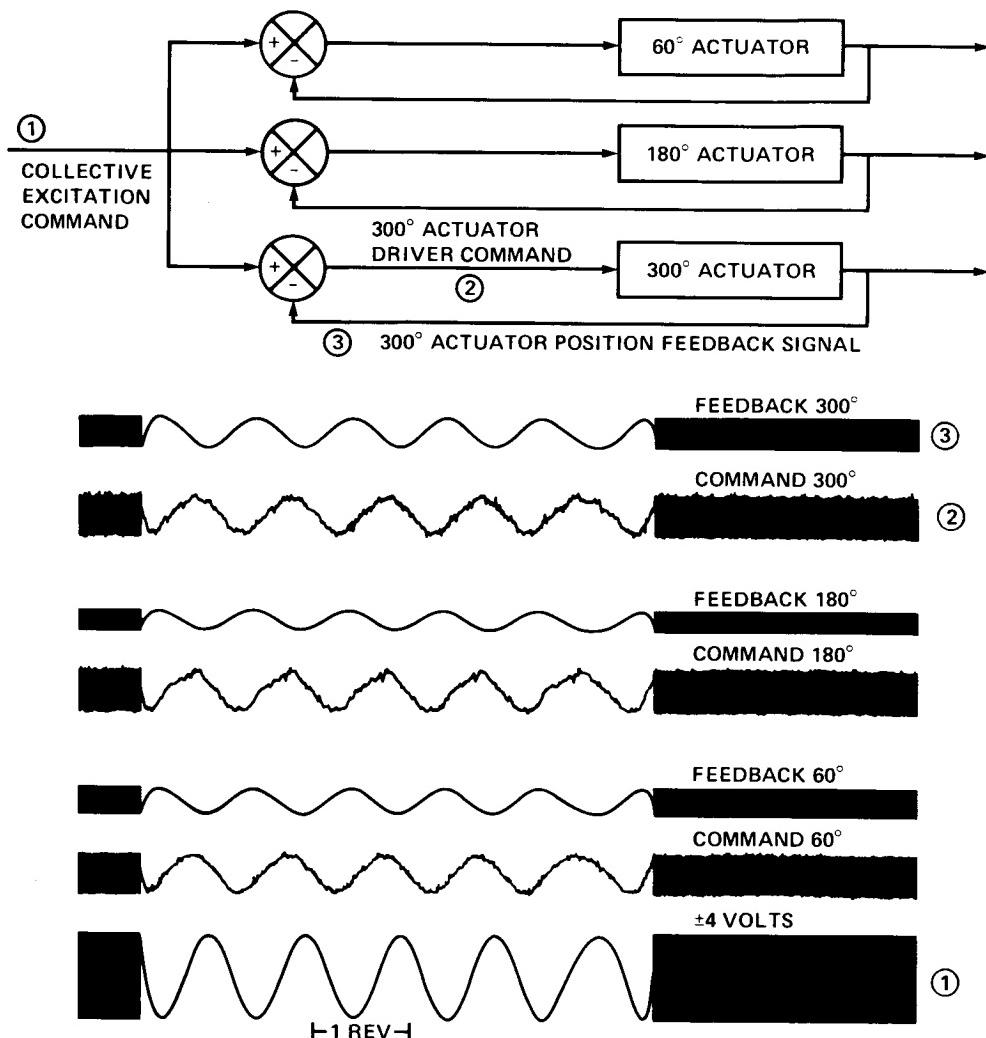


Figure 5

Collective Excitation Command, Actuator Driver Commands,  
and Actuator Position Feedback Signals.

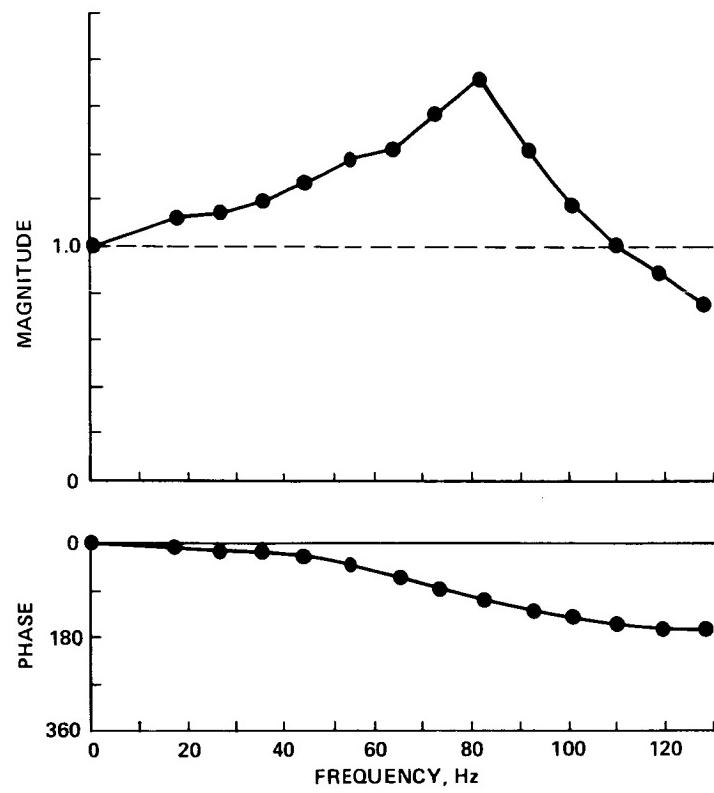


Figure 6  
Frequency Response at  $\pm 1.0$  Volts Input.

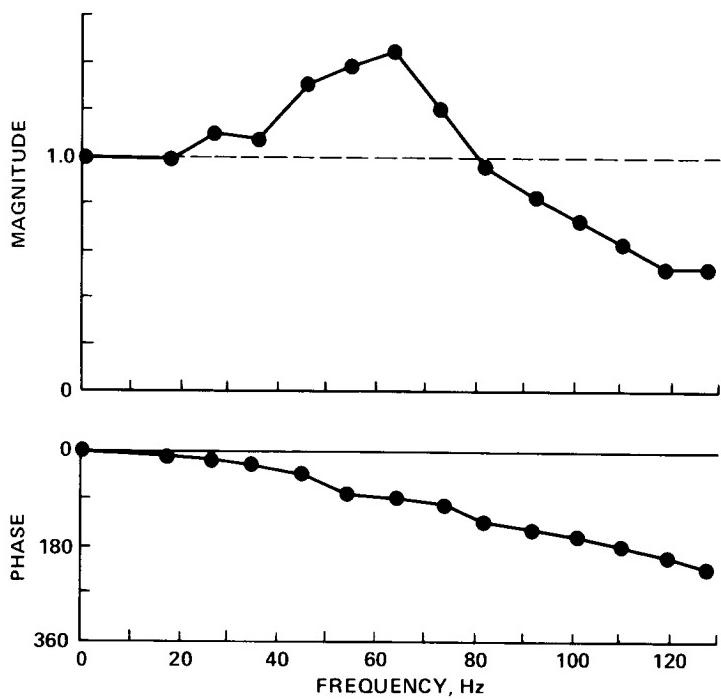


Figure 7  
Frequency Response at  $\pm$  2.0 Volts Input.

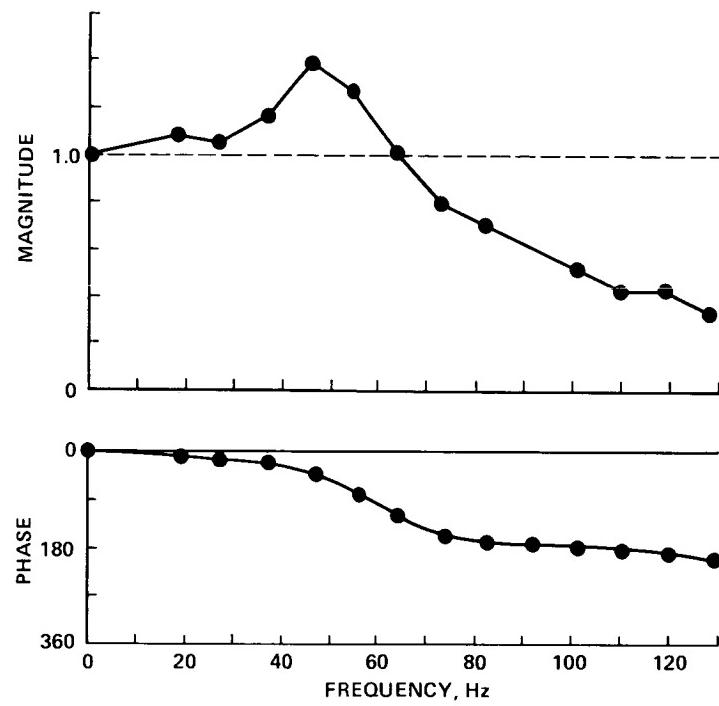


Figure 8  
Frequency Response at  $\pm 3.0$  Volts Input.

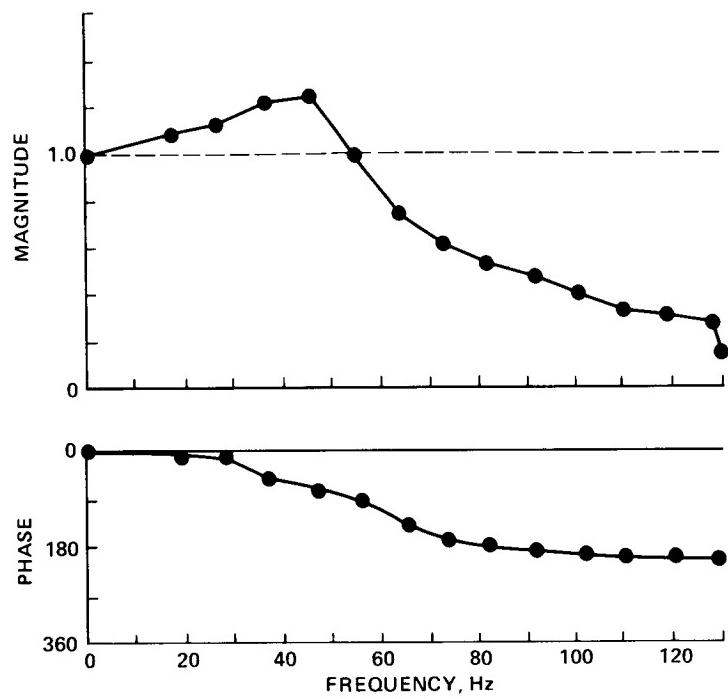


Figure 9  
Frequency Response at  $\pm 4.5$  Volts Input.

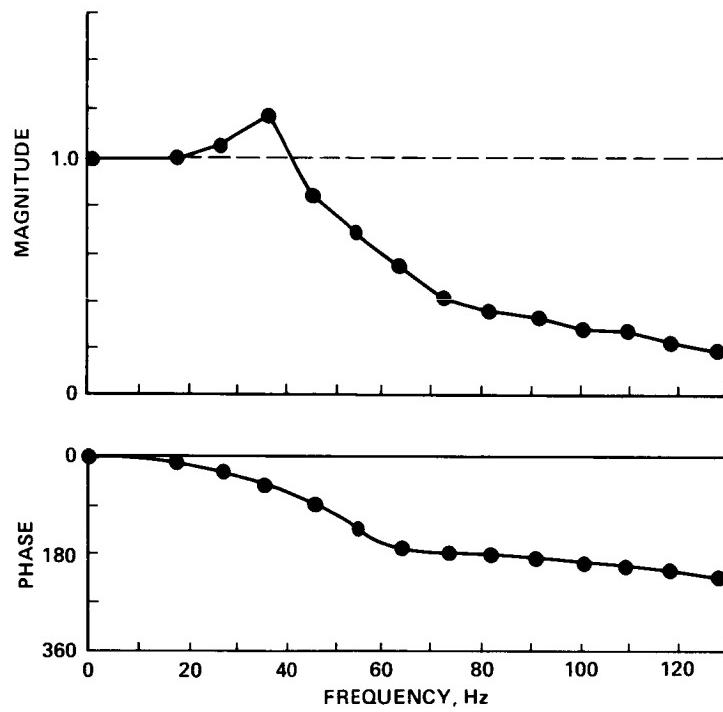


Figure 10  
Frequency Response at  $\pm 6.0$  Volts Input.

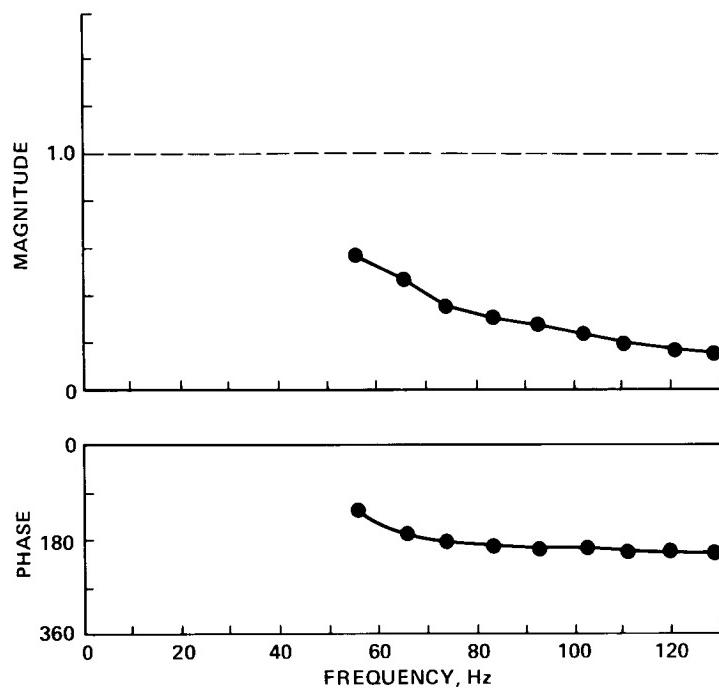


Figure 11  
Frequency Response at  $\pm$  7.5 Volts Input.

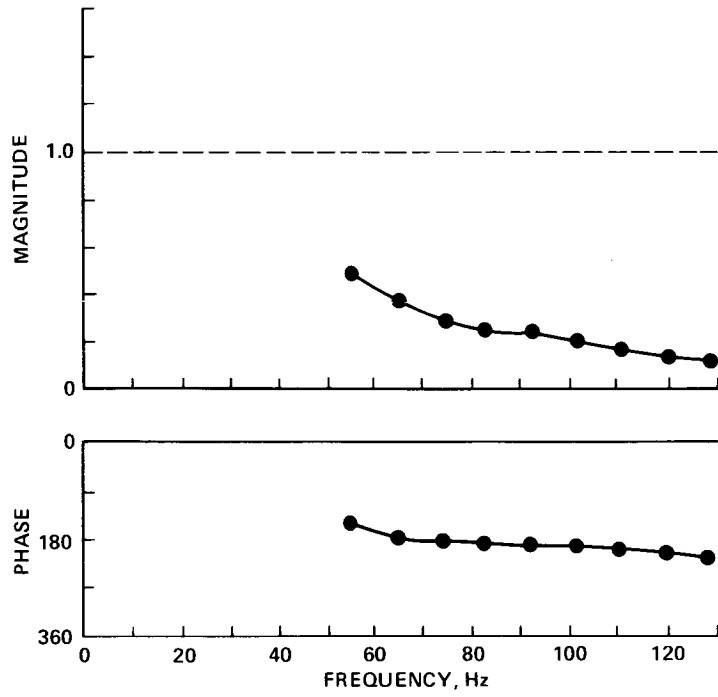


Figure 12  
Frequency Response at  $\pm 9.0$  Volts Input.

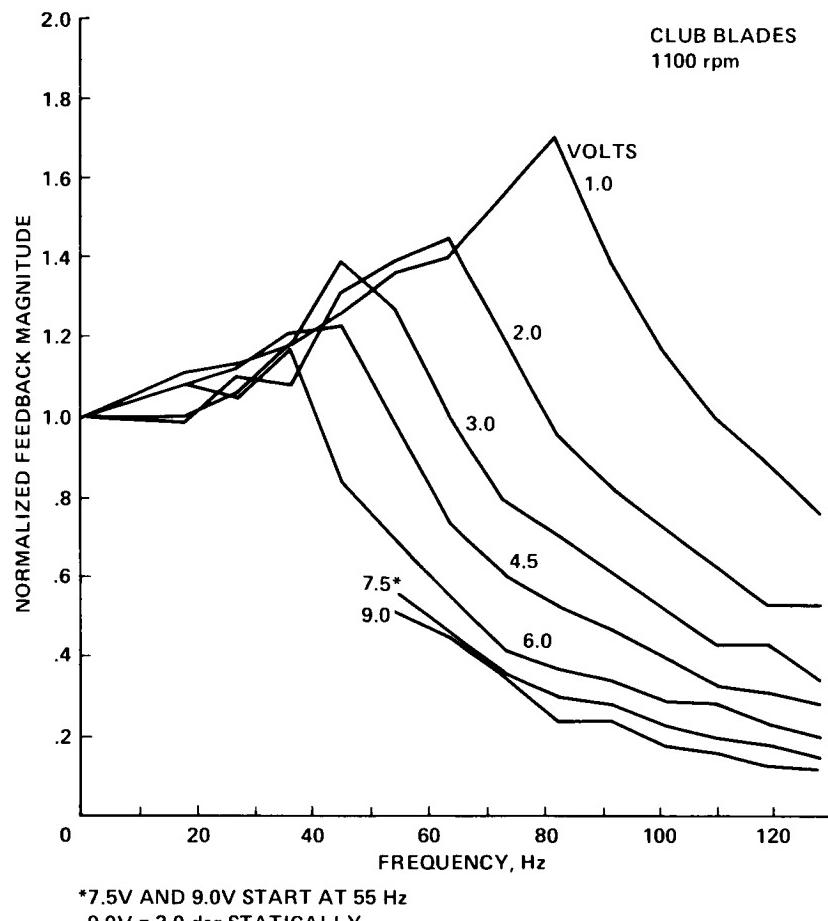


Figure 13

Bode Plot of Actuator Frequency Response.

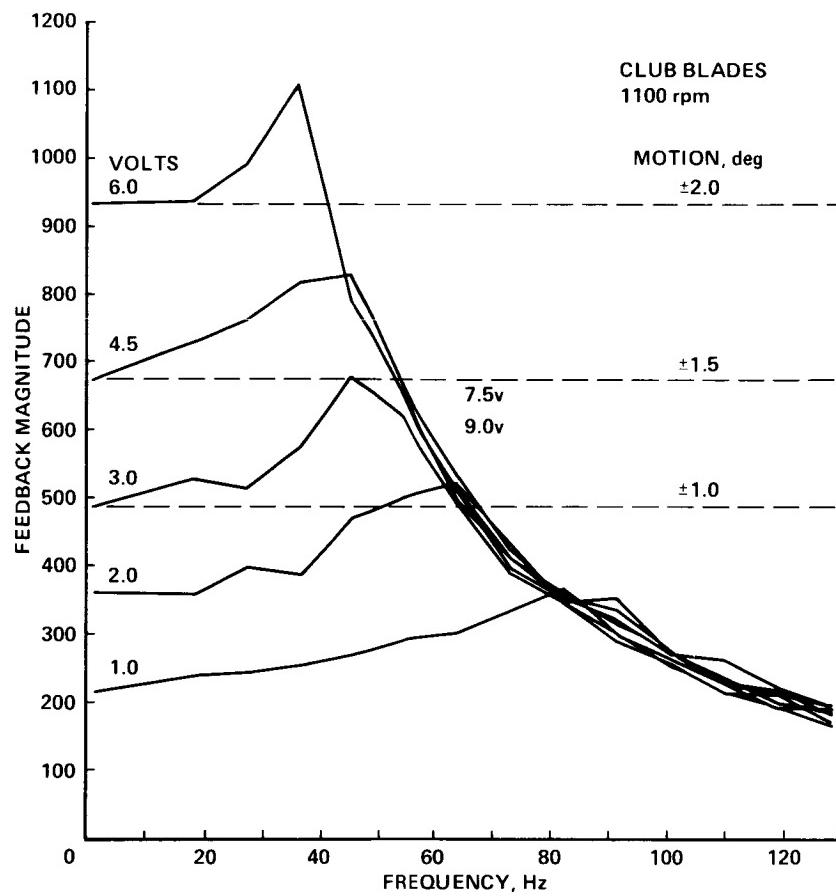


Figure 14  
Superposition of Actuator Frequency Response Curves.

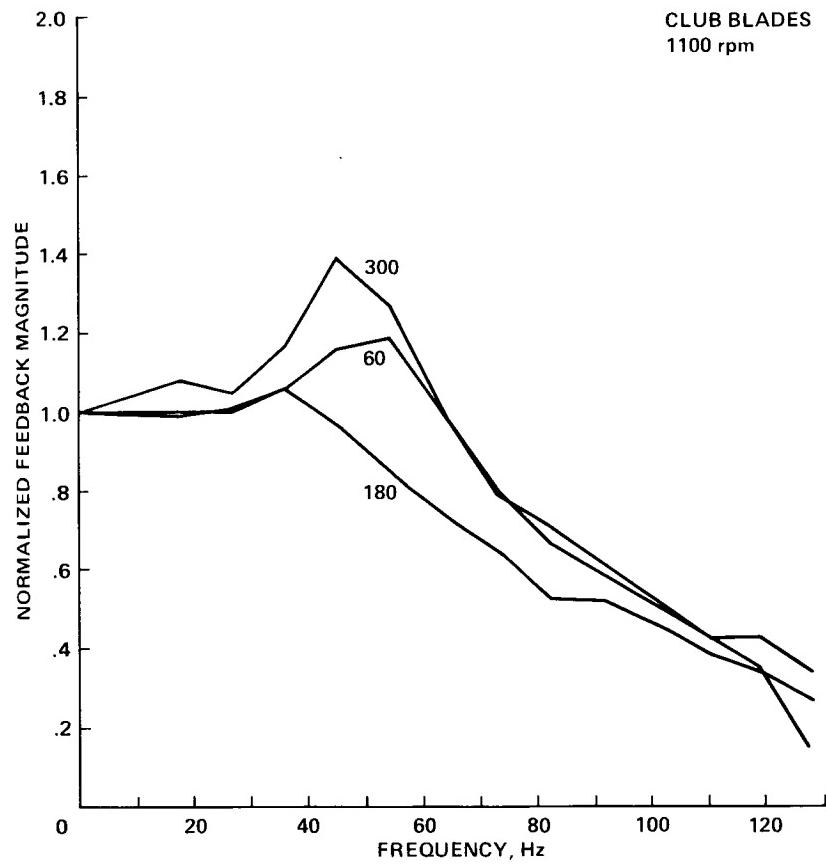
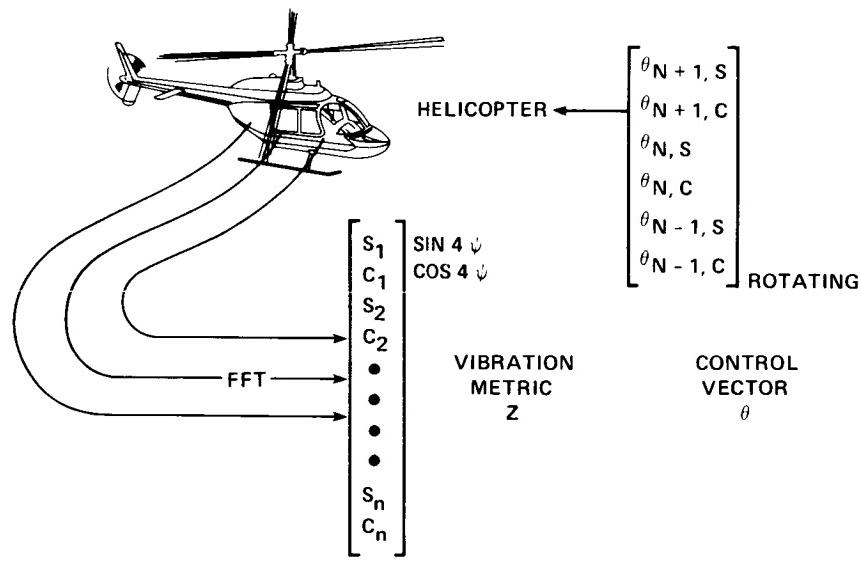


Figure 15

Frequency Response Using  $60^\circ$ ,  $180^\circ$ , and  $300^\circ$   
Actuator Position Feedback Signals.



$$Z = T\theta + Z_{\theta=0}$$

**GLOBALLY LINEAR  
MODEL**

$$\Delta Z = T\Delta\theta$$

**LOCALLY LINEAR  
MODEL**

Figure 16

Frequency Domain Models

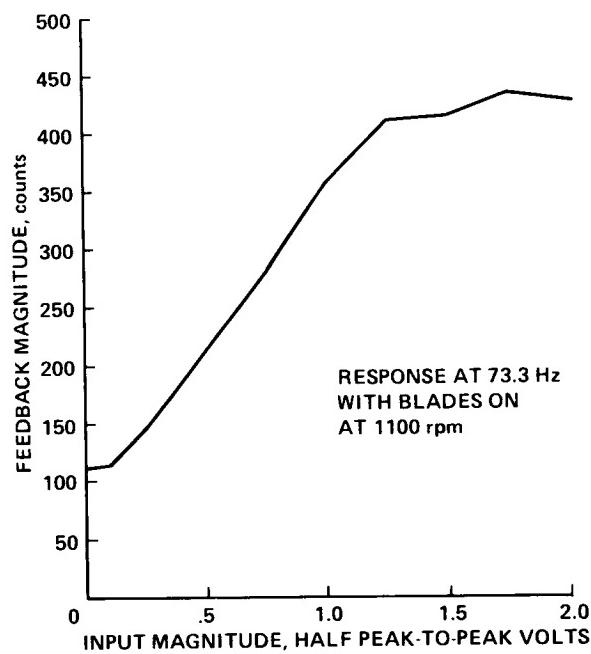


Figure 17

Frequency Response at 73.3 Hz with Blades On, at 1100 RPM

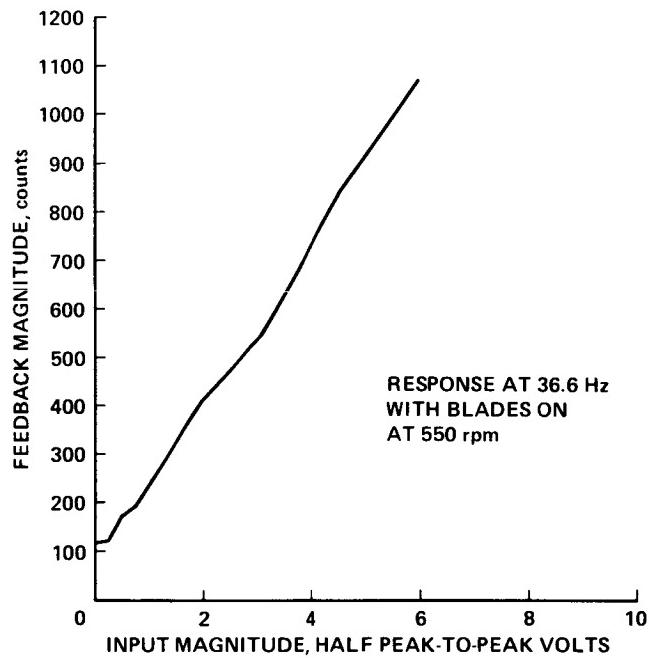


Figure 18

Frequency Response at 36.6 Hz with Blades On, at 550 RPM

## APPENDIX A, PRINCIPAL INSTRUMENTATION SYSTEMS AND THE DATA ACQUISITION SYSTEM

### Instrumentation

The RTR and supporting test equipment have a comprehensive instrumentation set designed to monitor safety and to provide accurate performance data. This set of instruments includes strain gauges, accelerometers, transducers, and load cells. A summary of the instrumentation and output devices is provided in Table A1. Test equipment was provided to measure loads on both the rotating and nonrotating systems. The principal instrument systems are described in the following paragraphs.

Two clusters of three orthogonally mounted five-g limit accelerometers were mounted on the rotor shaft housing. One cluster was mounted on the metric part of the rig, while the other cluster was mounted on the non-metric part. The orientation of these clusters were such that one accelerometer from each cluster was aligned with the roll axis, one was aligned with the pitch axis, and one was aligned with the yaw axis (Figure A1).

The rotor RPM is measured and displayed on a counter (digital rate indicator) with a 1024 pulse per revolution encoder.

The RTR model has a six component strain gauged internal balance used to measure steady state rotor forces and moments. These six components are: two normal force elements used for the determination of normal force and pitching moment, two side force elements for the determination of side force and yawing moment, a dual axial force element used for the determination of axial force, and a dual roll element used for the determination of roll moment.

One blade has been instrumented with strain gauge bridges to measure blade flapwise, chordwise, and torsional bending. The flatwise and edgewise bending gauges are located at the 20, 50, 70, and 80 percent blade radial stations from the center of rotation. The torsional gauges are located at the 30 and 60 percent blade radial stations. These gauges are bonded to the blade spar and covered with a fiberglass skin and filler designed to form the aerodynamic configuration of the finished blade.

The pitch, flap, and lead-lag rotor motions of one blade are measured by continuous film, single turn potentiometers mounted on the rotor head and driven by pinion and sector gears which amplify the mechanical motions. For each primary pot, there is an identical unit mounted diametrically opposite on the rotor head for mass balance. These second units are not connected but serve as in place spares.

Strain gauge instrumentation is provided on two of the four main rotor pushrods. These are full tension/compression bridges and are fully encapsulated for maximum mechanical protection.

A 250 lb (1112 N) limit load cell is mounted between the RTR and one of the RTR mounting rails to measure net torque developed by the RTR. The torque load cell moment arm is 1.266 ft (0.386 m) with a corresponding torque limit for this load cell of 317 ft-lb (429 N-m).

Three 2000 lb (8896 N) limit single axis load cells were mounted vertically between the mounting plate on the RTR tower and the mounting plate to which the RTR mounting rails are attached to measure the net thrust.

A limited meteorological station is located at the OARF. Wind speed and direction are obtained from this station.

## Data Acquisition System

The Data Acquisition System transmits and transforms the raw measurement output from the sensor instruments on the RTR to the specified output display format. This process requires and includes transmission from the sensor instruments to the appropriate amplifiers, filters, analog-to-digital converters, and data processors which condition, combine, and format the data for the specified output. The data is first transmitted from the RTR to a junction box (J-box) located in the OARF balance pit. From there it is transmitted to the J-box in the OARF Control Room from which it is transmitted to the appropriate data conditioners. After the data is appropriately conditioned and formatted, it is then transmitted to the specified output devices and to the Multicyclic Control Computer System (MCCS). There are nine types of output devices plus the MCCS to which the data are transmitted; these are:

1. Real Time Display (RTD)
2. Peak Detector System (PDS)
3. Cathode-Ray Oscilloscope, x versus y display (CRO/x-y)
4. Cathode-Ray Oscilloscope, x versus t display (CRO/x-t)
5. Calculating Counter (CTR)
6. Digital Panel Meter (DPM)
7. Oscillograph Recorder (OGR)
8. RTR Control Console (RTR/CSL)
9. On-Line Printer (Printer)
10. Multicyclic Control Computer System (MCCS)

The output displays for the the RTD, PDS, CRO, CTR, DPM, and OGR devices are defined in Tables A1 through A8. The instrument displays on the RTR Control Console are defined in Reference 1. The on-Line printer provides on-line digital output of data processed by the Data Acquisition System. The MCCS has a flexible output display which allows the display of: 1) any of up to 64 analog-to-digital channels of data transmitted to the MCCS in either the time domain or the frequency domain, and 2) any of up to eight digital-to- analogue channels of MCCS output signals.

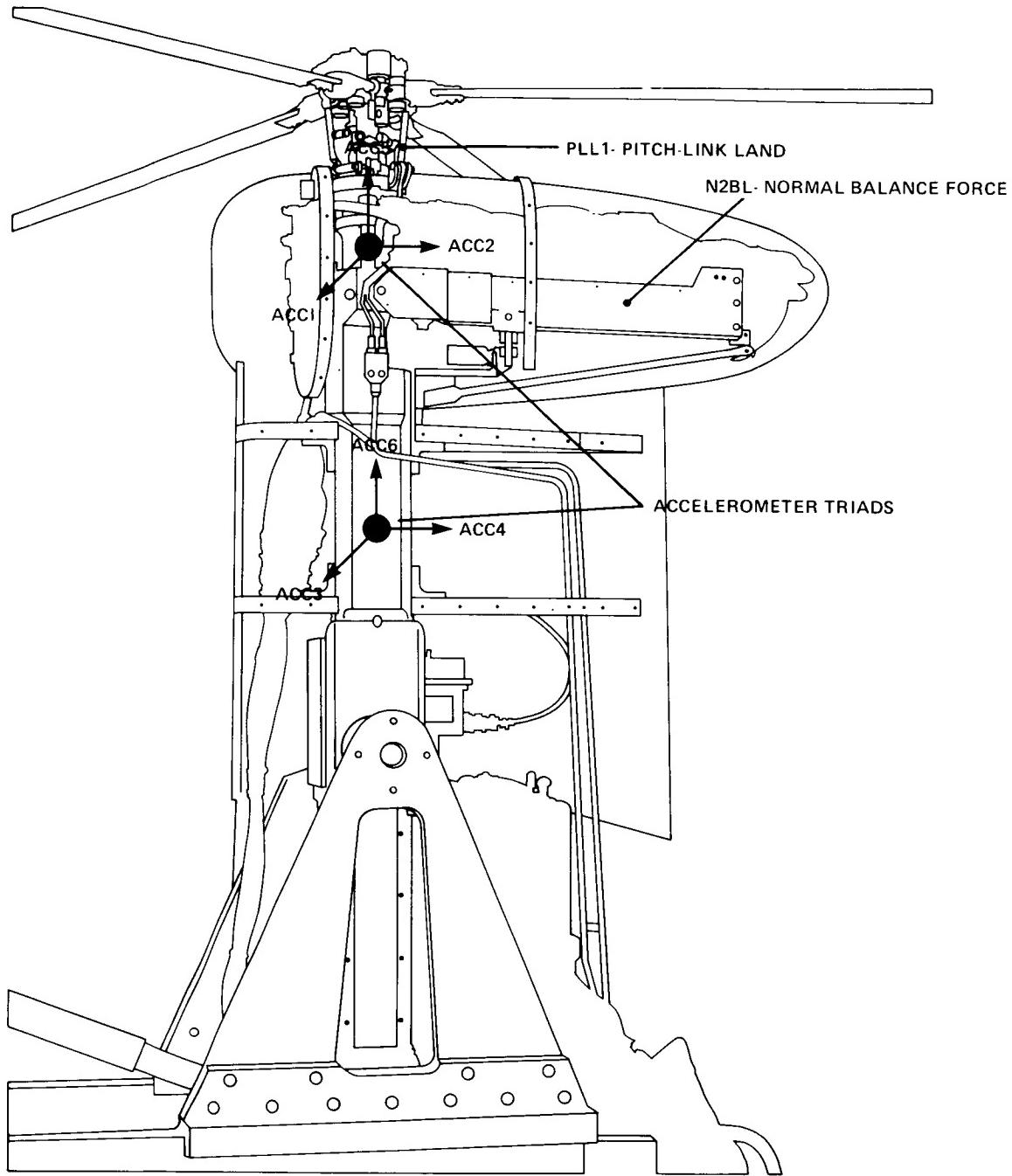


Figure A1  
Accelerometer Locations on the Rotor Test Rig.

Table A1, Instrumentation and Output Summary

PARAMETER	RED-LINE LIMIT	DEVICE							
		RTD	PDS	CRO x-y	CRO x-t	DPM	CTR	RTR CSL	OGR
RPM	<i>1000 * to 2100 RPM</i>	x					x	x	
Blade Pitch									
Collective (COLL)		x						x	
Lateral Cyclic ( $A_{1S}$ )		x						x	
Longitudinal Cyclic ( $B_{1S}$ )		x						x	
Rotor Thrust Coefficient ( $Thrust/\rho ARV_{tip}^2$ )		x							
Rotor Torque	<i>427 N-m</i>	x				x			
Pushrod Load									
Steady State	<i>-50 to +135 lbs</i>							x	x
$\frac{1}{2}$ (Peak-to-Peak)	<i><math>\pm 25</math> lbs</i>							x	x
Rotor Blade Loads				x	x	x			
Balance Loads									
N1 + N2 ( <i>Thrust</i> )	<i><math>\pm 8896</math> N</i>	x							
N1 - N2 ( <i>Pitch Moment</i> )	<i><math>\pm 1695</math> N-m</i>								
AX ( <i>Drag</i> )	<i><math>\pm 1779</math> N</i>								
S1 + S2 ( <i>Side force</i> )	<i><math>\pm 4448</math> N</i>								
S1 - S2 ( <i>Yaw Moment</i> )	<i><math>\pm 784</math> N-m</i>								
RM ( <i>Roll Moment</i> )	<i><math>\pm 565</math> N-m</i>								
Load Cells									
LC1 + LC2 + LC3 ( <i>Thrust</i> )	<i><math>\pm 8896</math> N</i>	x				x			
Accelerometers									
1 ( <i>Metric Lateral</i> )	<i><math>2g, \frac{1}{2}(p-p)</math></i>		x			x			
2 ( <i>Metric Longitudinal</i> )	<i><math>2g, \frac{1}{2}(p-p)</math></i>		x						
3 ( <i>Non-Metric Lateral</i> )	<i><math>2g, \frac{1}{2}(p-p)</math></i>		x						
4 ( <i>Non-Metric Long</i> )	<i><math>2g, \frac{1}{2}(p-p)</math></i>		x						
5 ( <i>Metric Vertical</i> )	<i><math>2g, \frac{1}{2}(p-p)</math></i>		x						
6 ( <i>Non-Metric Vertical</i> )	<i><math>2g, \frac{1}{2}(p-p)</math></i>		x						

Table A1, Instrumentation and Output Summary (Continued)

PARAMETER	RED-LINE LIMIT	DEVICE							
		RTD	PDS	CRO x-y	CRO x-t	DPM	CTR	RTR CSL	OGR
Lead-Lag ( <i>Pot</i> )	-5 to +18 deg		x		x	x			
Scaled Pitch ( <i>Pot</i> )	-15 to +15 deg				x	x			x
Scaled Flap ( <i>Pot</i> )	-5 to +15 deg		x		x				x
Shaft Tilt	$\pm 10$ deg						x		
Actuator Rod Ends	$\pm 1601$ N		x						
High Speed Actuator Command Signals									x
High Speed Actuator Position Feedback									x

where:

ACRONYM	DEFINITION
$\frac{1}{2}(p-p)$	One-half of peak-to-peak values
RTD	Real Time Display
PDS	Peak Detector System
CRO/x-y	Cathode-Ray Oscilloscope, x versus y display
CRO/x-t	Cathode-Ray Oscilloscope, x versus t display
DPM	Digital Panel Meter
CTR	Calculating Counter
RTR/CSL	RTR Console
OGR	Oscillograph Recorder

Footnotes:

- \* This is an RTR Control Console limitation; the measured cyclic pitch and flapping are not effective below 1000 RPM.

Table A2, Real Time Display (RTD)

PARAMETER	DEFINITION	UNITS
A1	Blade Lateral Cyclic Pitch from the RTR Control Console	Degrees
A1T	Blade Lateral Cyclic Pitch computed from actuator position	Degrees
B1	Blade Longitudinal Cyclic Pitch from the RTR Control Console	Degrees
B1T	Blade Longitudinal Cyclic Pitch computed from actuator position	Degrees
COLL	Blade Collective Pitch from the RTR Control Console	Degrees
COLT	Blade Collective Pitch computed from actuator position	Degrees
CP	Power Coefficient	nondimensional
CTLC	Thrust Coefficient from Load Cells	nondimensional
CT/S	Thrust Coefficient from RTR Balance	nondimensional
DL/T	DNLD/TRST	nondimensional
DNLD	Wing Download from Wing Balance	Newtons
HP	Rotor Horsepower	Horsepower
MTIP	Rotor Tip Mach Number	Mach Number
PSIW	Wind Direction	Degrees
RPM	Rotor Speed	RPM
TLC	Rotor Thrust from Load Cells	Newtons
TORQ	Rotor Torque from RTR Torque Load Cell	Newton-metres
TRST	Rotor Thrust from RTR Balance	Newtons
VTIP	Rotor Tip Velocity	Metres/second
WIND	Wind Speed	Metres/second

Table A3, Peak Detector System (PDS)

PARAMETER	DEFINITION	UNITS
EB-2	Blade Edgewise Bending at 20% Blade Radius	Newton-metres
NB-2	Blade Flapwise Bending at 20% Blade Radius	Newton-metres
Q-3	Blade Torsion at 30% Blade Radius	Newton-metres
PLL	Pushrod Load	Newtons
ACC1	Lateral Metric Acceleration of the RTR	g's
ACC2	Longitudinal Metric Acceleration of the RTR	g's
ACC3	Longitudinal Non-metric Acceleration of the RTR	g's
ACC4	Lateral Non-metric Acceleration of the RTR	g's
ACC5	Vertical Metric Acceleration of the RTR	g's
ACC6	Vertical Non-metric Acceleration of the RTR	g's
LAG	Blade Lag Angle	Degrees
FLAP	Blade Flap Angle	Degrees
ROD1	Load on the First Actuator Upper Rod End	Newtons
ROD2	Load on the Second Actuator Upper Rod End	Newtons

Note: The AC value and the DC extreme values are displayed for each signal except the acceleration signals (i.e., ACC1, ACC2, ..., ACC6). Only the AC values are displayed for the acceleration signals.

Table A4, Cathode-Ray Oscilloscope (CRO) X-Y Displays

DISPLAY NUMBER	X PARAMETER	Y PARAMETER	UNITS for X & Y
ONE	EB-2, Blade Edgewise Bending at 20% Blade Radius ..... AC Coupled $\frac{1}{2}$ peak-to-peak Signals .....	NB-2, Blade Flapwise Bending at 20% Blade Radius	Newton-metres
TWO	EB-2, Blade Edgewise Bending at 20% Blade Radius ..... DC Coupled Signals .....	NB-2, Blade Flapwise Bending at 20% Blade Radius	Newton-metres

Table A5, Cathode-Ray Oscilloscope (CRO) X-t Displays

DISPLAY NUMBER	X PARAMETER	SIGNAL TYPE	UNITS for X
ONE	BLDANG, Blade Pitch Angle	AC	Degrees
TWO	FLAP, Blade Flap Angle	AC	Degrees
THREE	LAG, Blade Lead Angle	DC	Degrees
FOUR	LAG, Blade Lag Angle	DC	Degrees

Table A6, Calculating Counter (CTR)

PARAMETER	DEFINITION	UNITS
RPM	Angular Velocity Magnitude of the Rotor about the Drive Axis	Revolutions per Minute

Table A7, Digital Panel Meters (DPM's)

PARAMETER	DEFINITION	UNITS
BLDANG	Blade Pitch Angle	Degrees
LC1	Load Measured by the First Load Cell	Newtons
LC2	Load Measured by the second Load Cell	Newtons
LC3	Load Measured by the Third Load Cell	Newtons
LAG	Blade Flap Angle	Degrees
LAG	Blade Lead Angle	Degrees
TORQ	Torque Measured by the Torque Load cell	Newton-metres

**Table A8, Oscillograph Recorder (OGR) Number One**

TRACE POSITION	PARAMETER	DEFINITION	UNITS
ONE	AZ	Once per Rev Pulse when Blade One has Zero Azimuth	nondimensional
TWO	PCGEN	High Speed Actuator Common Command Signal *	Volts
THREE	PC60	60 Degree High Speed Actuator Position Command Signal	Volts
FOUR	PFB60	60 Degree High Speed Actuator Position Feedback Signal	Volts
FIVE	PC180	180 Degree High Speed Actuator Position Command Signal	Volts
SIX	PFB180	180 Degree High Speed Actuator Position Feedback Signal	Volts
SEVEN	PC300	300 Degree High Speed Actuator Position Command Signal	Volts
EIGHT	PFB300	300 Degree High Speed Actuator Position Feedback Signal	Volts

Footnote:

\* This signal is only generated for the High Speed Actuator performance tests.

Table A9, Oscillograph Recorder (OGR) Number Two

TRACE POSITION	PARAMETER	DEFINITION	UNITS
ONE	AZ	Once per Rev Pulse when Blade One has Zero Azimuth	nondimensional
TWO	PCGEN	High Speed Actuator Common Command Signal *	Volts
THREE	PLL	Pushrod Load	Newtons
FOUR	BLDANG	Blade Pitch Angle	Degrees
FIVE	FLAP	Blade Flap Angle	Degrees
SIX	ROD1	Load on the First Actuator Upper Rod End	Newtons

Footnotes:

\* This signal is only generated for the High Speed Actuator performance tests.

## APPENDIX B

### Data From High-Speed Actuator Performance Test

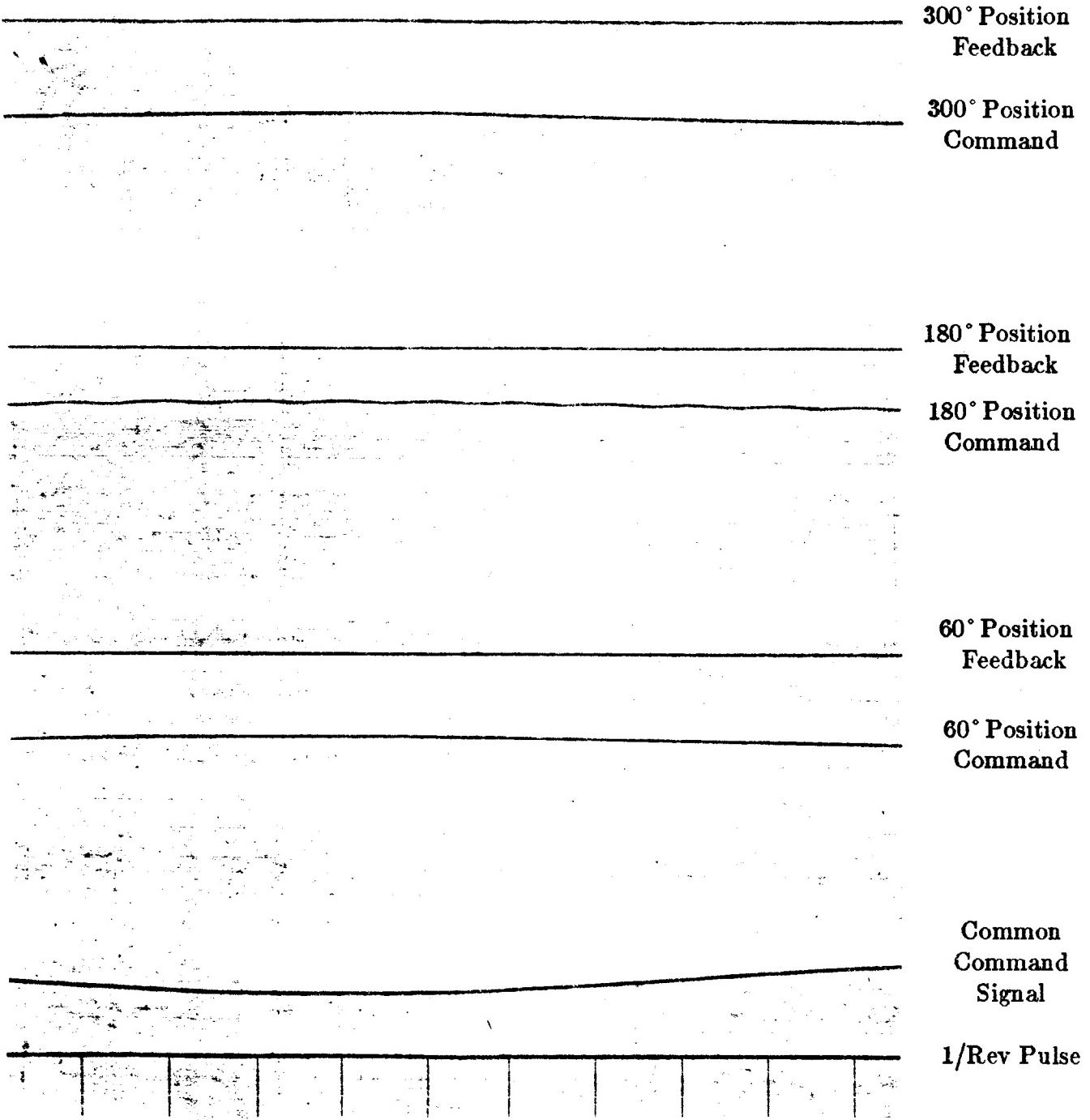
This appendix presents the data acquired during the high-speed actuator performance test for the  $\pm 1.0$ ,  $\pm 2.0$ ,  $\pm 3.0$ ,  $\pm 4.5$ ,  $\pm 6.0$ ,  $\pm 7.5$ , and  $\pm 9.0$  volt excitation cases. The data is organized in the manner shown in Table B1 on the next page. For each of the seven runs a summary graph and table follows the presentation of the analog data. Note that in each summary table (Tables B2 - B8) that the last two columns contain the HHC pitch response amplitude and phase relative to the excitation command.

Table B1

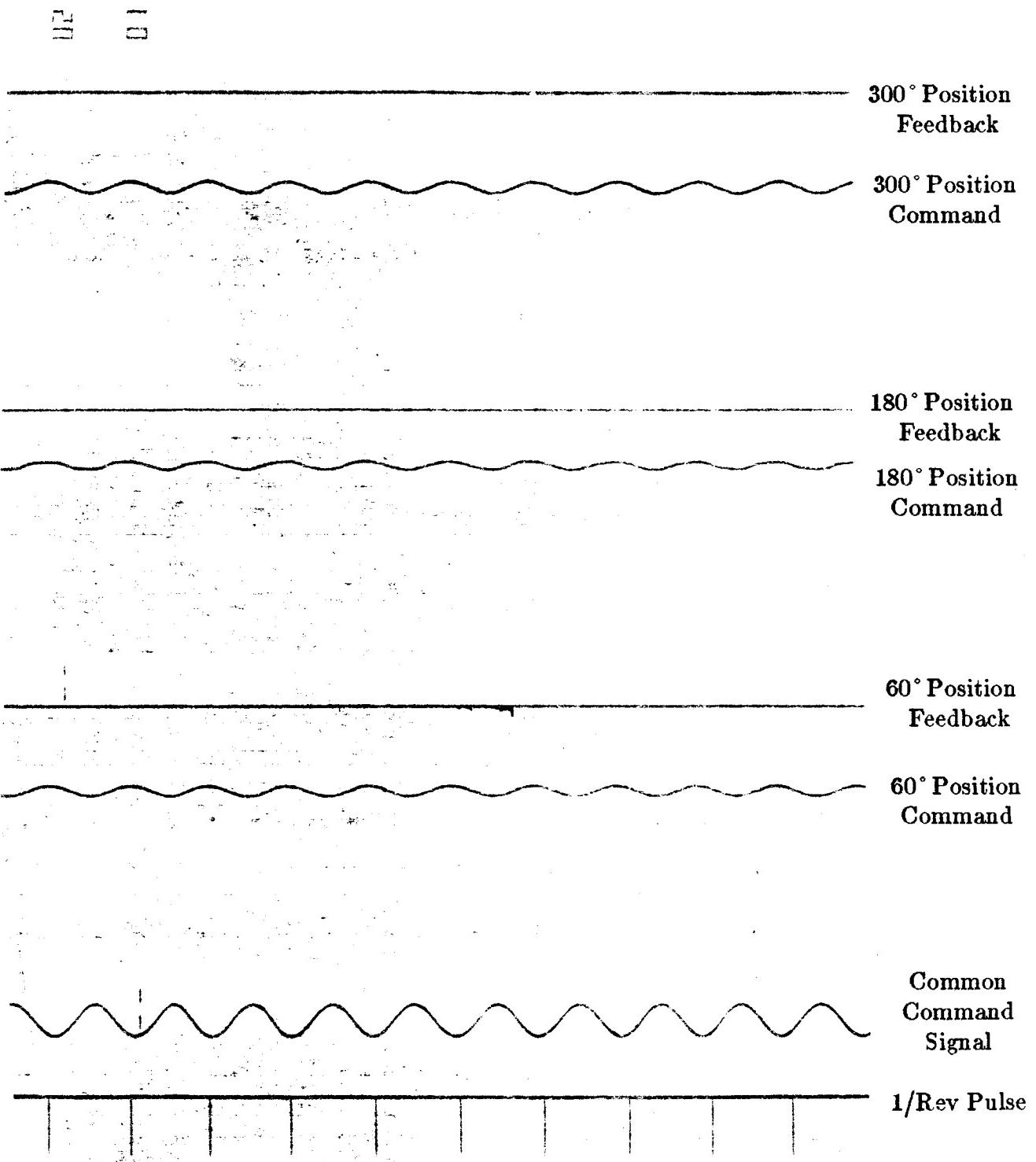
Appendix B page number index of data according to excitation frequency and amplitude of seven runs done at 1100 RPM.

Frequency In Hertz	$\pm 1.0$ Volts	$\pm 2.0$ Volts	$\pm 3.0$ Volts	$\pm 4.5$ Volts	$\pm 6.0$ Volts	$\pm 7.5$ Volts	$\pm 9.0$ Volts
1.0	B3*	B19	B31	B47	B63		
18.3	B4*	B20	B32	B48	B64		
27.5	B5*	B21	B33	B49	B65		
36.6	B6*	B22	B34	B50	B66		
45.8	B7*	B23	B35	B51	B67		
55.0	B8*	B24	B36	B52	B68	B79	B90
64.2	B9*	B25	B37	B53	B69	B80	B91
73.3	B10*	B26	B38	B54	B70	B81	B92
82.5	B11*	B27	B39	B55	B71	B82	B93
91.6	B12*	B28	B40	B56	B72	B83	B94
100.8	B13*		B41	B57	B73	B84	B95
110.0	B14*		B42	B58	B74	B86	B96
119.2	B15*		B43	B59	B75	B86	B97
128.3	B16*		B44	B60	B76	B87	B98
Summary Graph	B17 B18	B29 B30	B45 B46	B61 B62	B77 B78	B88 B89	B100 B101

\* Actuator driver commands not available.



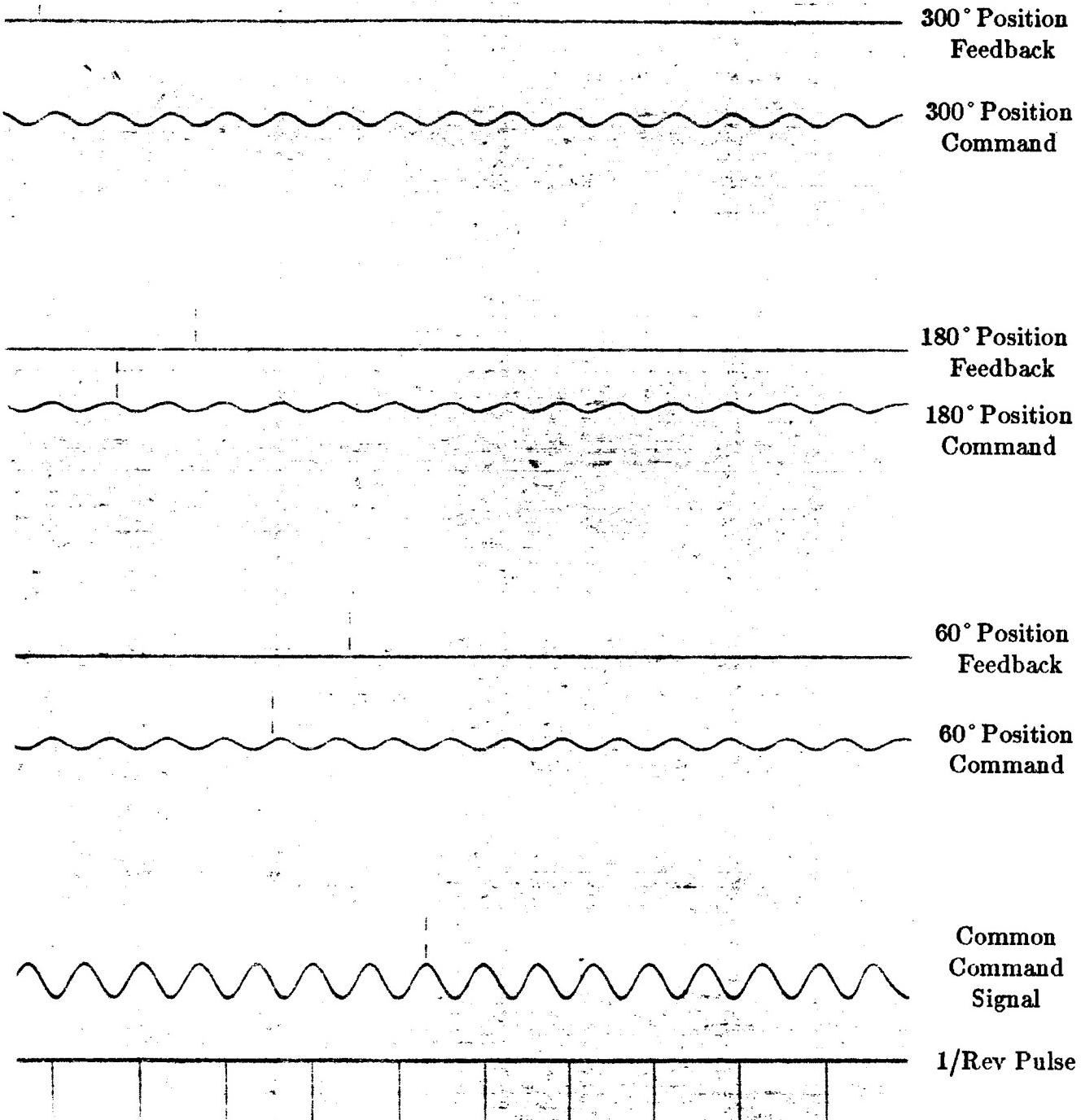
1.0 Volts Half Peak-To-Peak Input at 1.0 Hz.



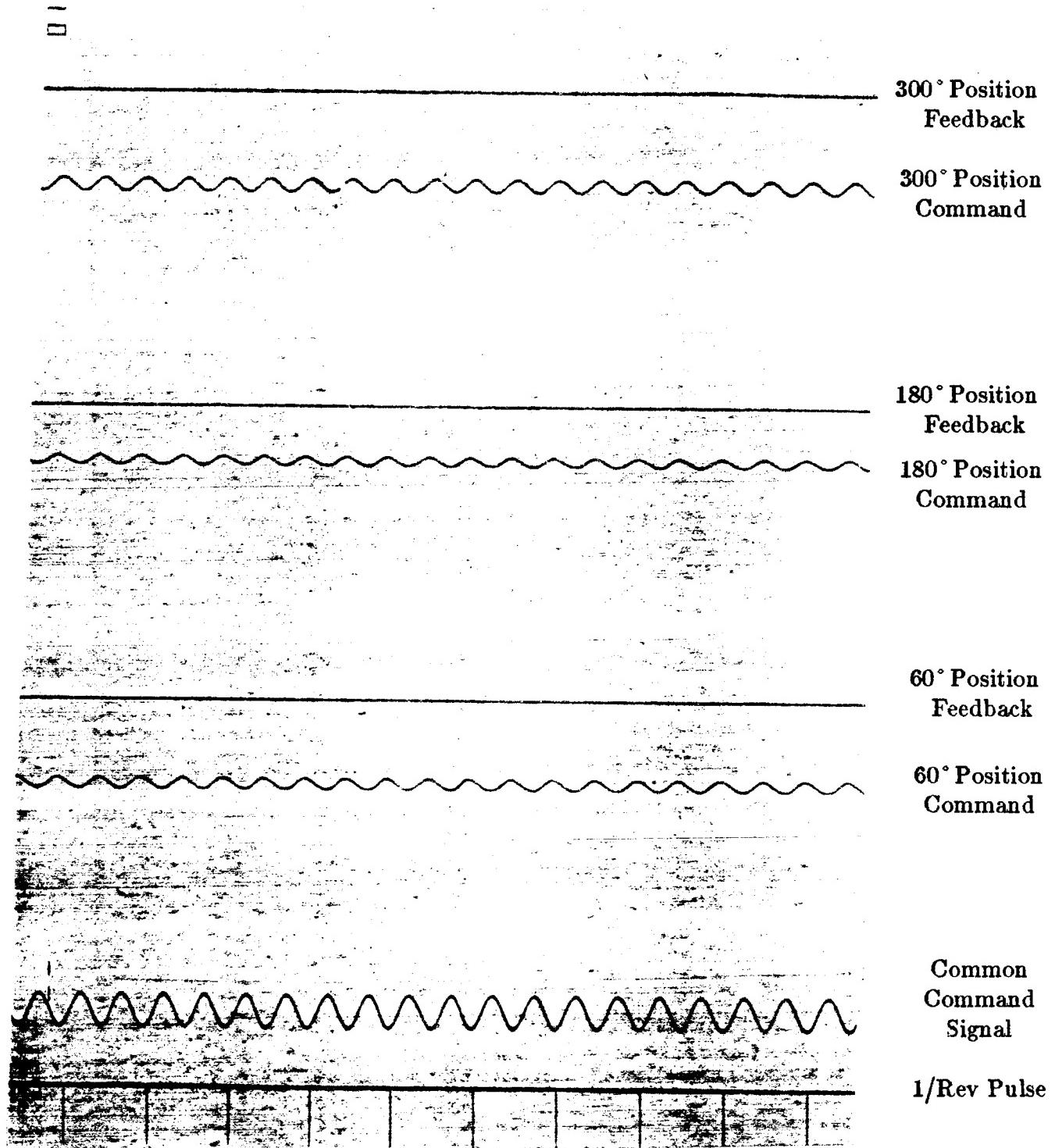
1.0 Volts Half Peak-To-Peak Input at 18.3 Hz.

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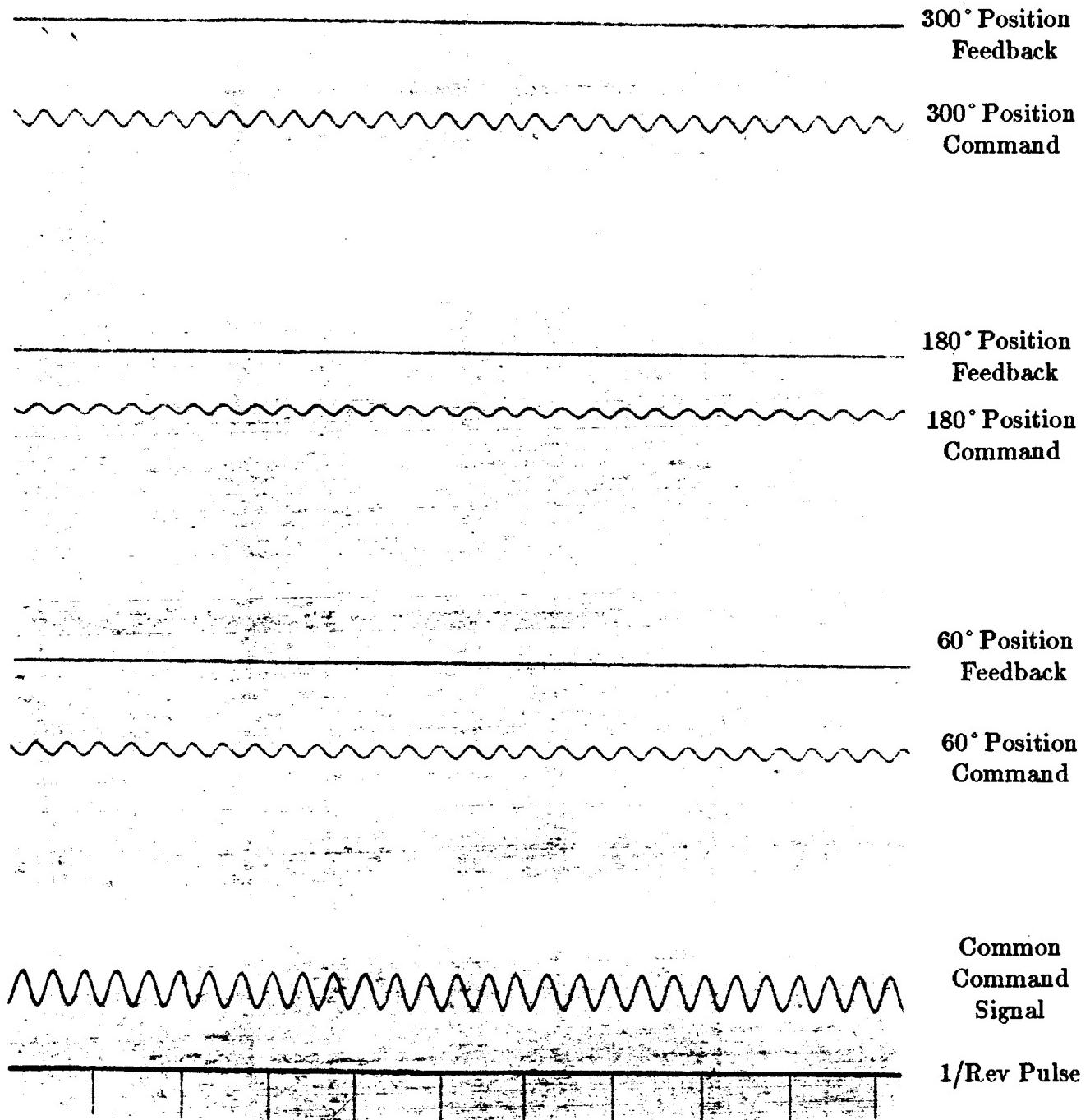
1 2 3 4 5 6



1.0 Volts Half Peak-To-Peak Input at 27.5 Hz.



1.0 Volts Half Peak-To-Peak Input at 36.6 Hz.



1.0 Volts Half Peak-To-Peak Input at 45.8 Hz.

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55 Hz

300° Position  
Feedback

300° Position  
Command

180° Position  
Feedback

180° Position  
Command

60° Position  
Feedback

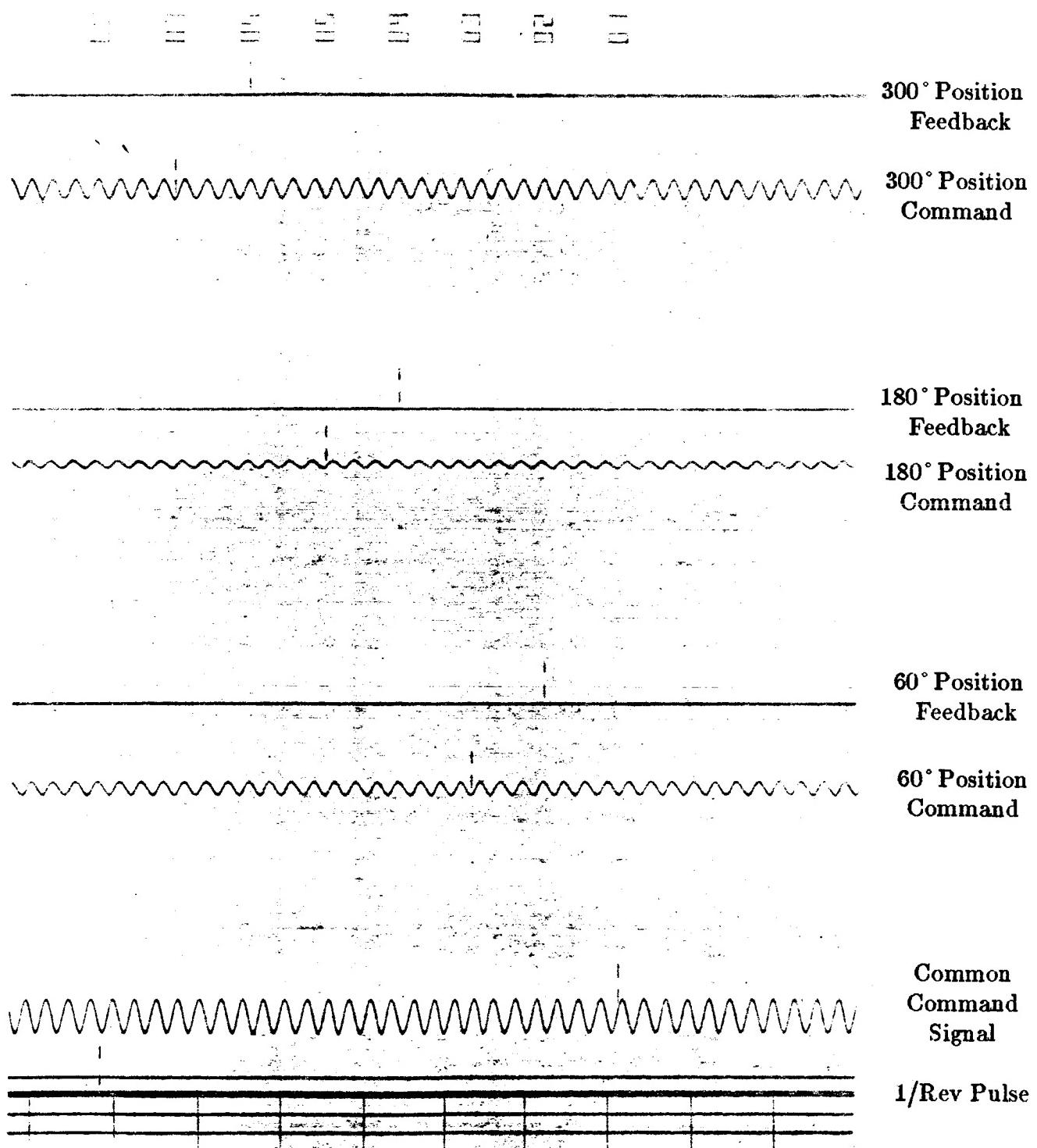
60° Position  
Command

Common  
Command  
Signal

1/Rev Pulse

1.0 Volts Half Peak-To-Peak Input at 55.0 Hz.

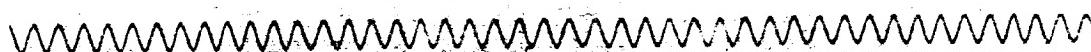
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**1.0 Volts Half Peak-To-Peak Input at 64.2 Hz.**

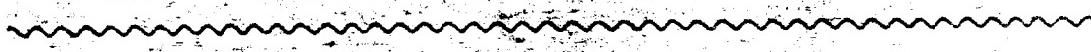
□ □ □

300° Position  
Feedback



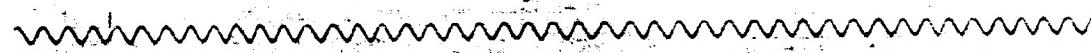
300° Position  
Command

180° Position  
Feedback

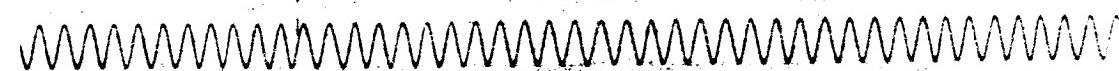


180° Position  
Command

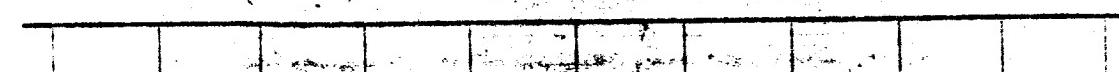
60° Position  
Feedback



60° Position  
Command



Common  
Command  
Signal

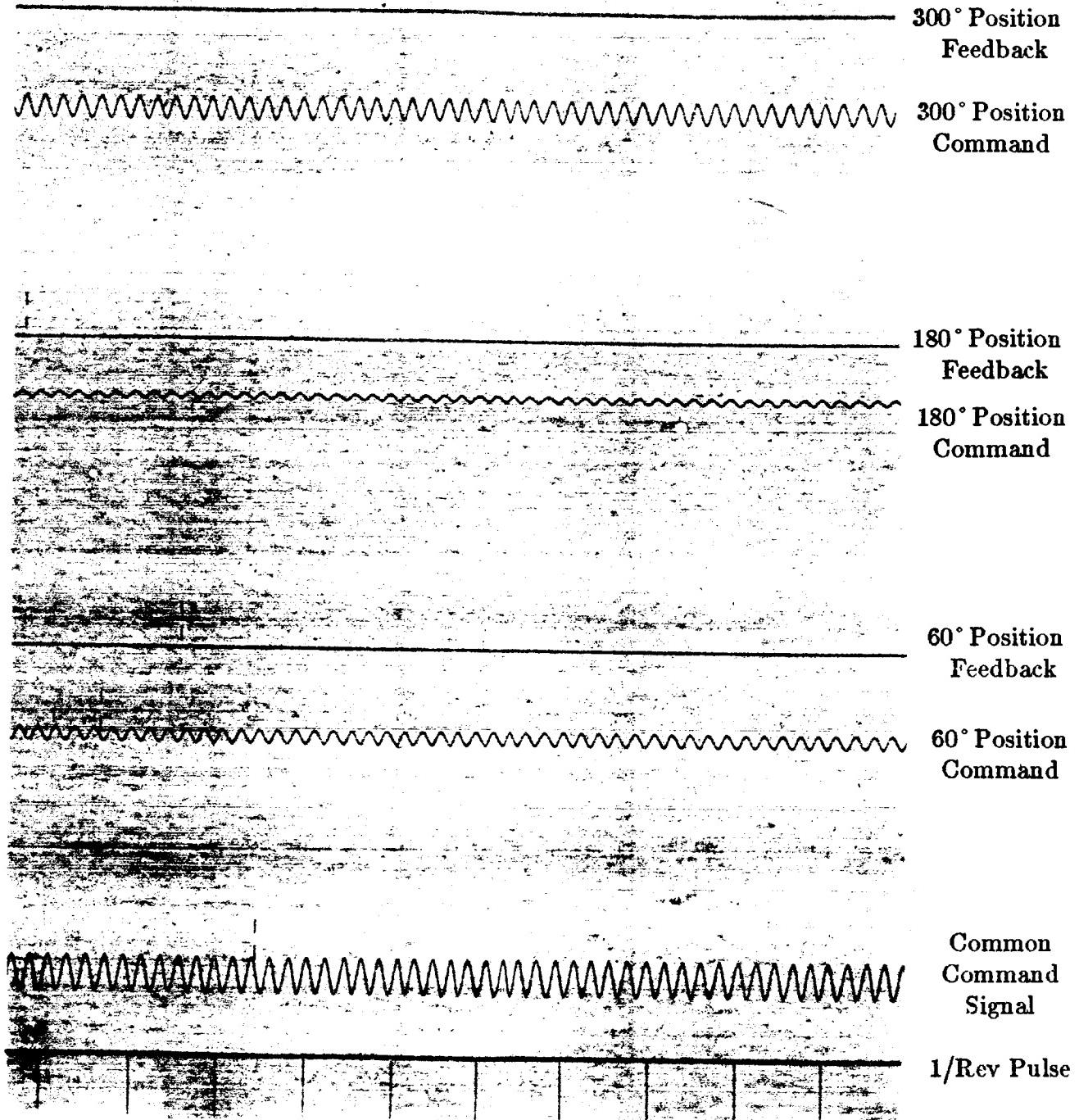


1/Rev Pulse

1.0 Volts Half Peak-To-Peak Input at 73.3 Hz.

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01 00 02 01



1.0 Volts Half Peak-To-Peak Input at 82.5 Hz.

00 01 02 03 04 05 06 07 08

---

300° Position  
Feedback

Wavy line representing the 300° Position Feedback signal.

300° Position  
Command

Wavy line representing the 300° Position Command signal.

180° Position  
Feedback

Wavy line representing the 180° Position Feedback signal.

180° Position  
Command

Wavy line representing the 180° Position Command signal.

60° Position  
Feedback

Wavy line representing the 60° Position Feedback signal.

60° Position  
Command

Wavy line representing the 60° Position Command signal.

Common  
Command  
Signal

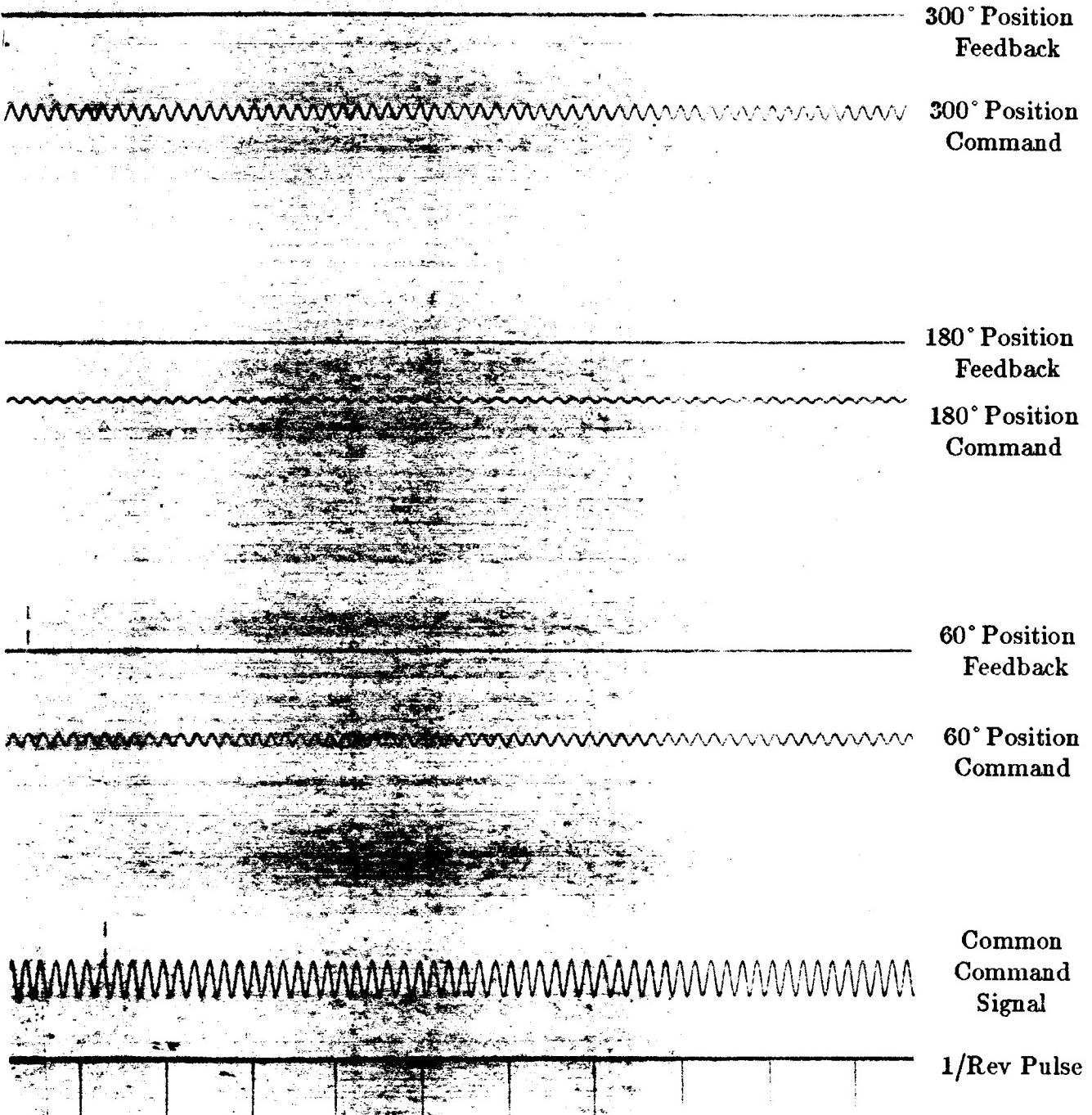
Vertical line with square pulses representing the 1/Rev Pulse signal.

1/Rev Pulse

1.0 Volts Half Peak-To-Peak Input at 91.6 Hz.

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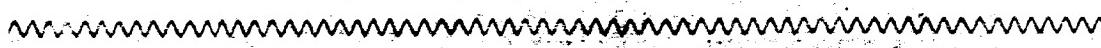
02 01



1.0 Volts Half Peak-To-Peak Input at 100.8 Hz.

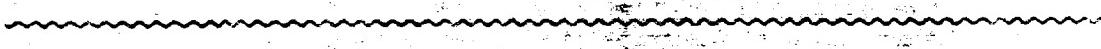
E1 E2 E3 E4

300° Position  
Feedback



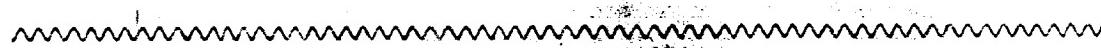
300° Position  
Command

180° Position  
Feedback



180° Position  
Command

60° Position  
Feedback



60° Position  
Command

Common  
Command  
Signal



1/Rev Pulse



1.0 Volts Half Peak-To-Peak Input at 110.0 Hz.

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225

300° Position  
Feedback

300° Position  
Command

180° Position  
Feedback

180° Position  
Command

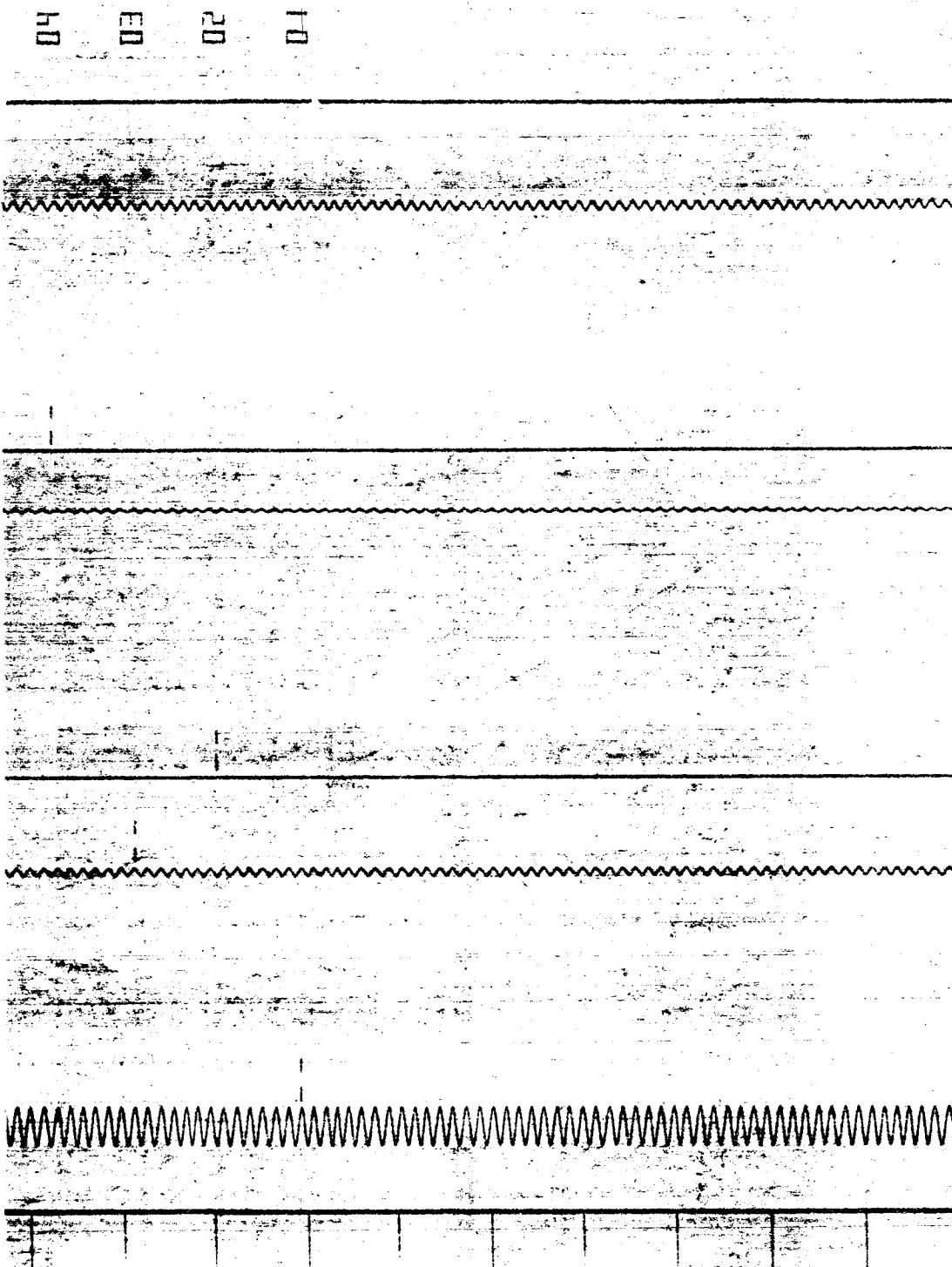
60° Position  
Feedback

60° Position  
Command

Common  
Command  
Signal

1/Rev Pulse

1.0 Volts Half Peak-To-Peak Input at 119.2 Hz.



1.0 Volts Half Peak-To-Peak Input at 128.3 Hz.

Table B2

Summary of actuator frequency response data for  
1.0 volts half peak-to-peak command input.

Frequency Per/Rev	Frequency In Hz	Magnitude In Counts	Relative Magnitude	Magnitude In ± Degs	Phase In Degs
	1.0	215	1.00	0.33	0
1.0/Rev	18.3	239	1.11	0.37	10
1.5/Rev	27.5	244	1.13	0.37	15
2.0/Rev	36.6	255	1.18	0.39	18
2.5/Rev	45.8	271	1.26	0.42	20
3.0/Rev	55.0	293	1.36	0.45	32
3.5/Rev	64.2	302	1.40	0.46	45
4.0/Rev	73.3	334	1.55	0.51	90
4.5/Rev	82.5	369	1.71	0.56	110
5.0/Rev	91.6	303	1.40	0.46	130
5.5/Rev	100.8	253	1.17	0.39	145
6.0/Rev	110.0	216	1.00	0.33	150
6.5/Rev	119.2	193	0.89	0.29	155
7.0/Rev	128.3	165	0.76	0.25	160

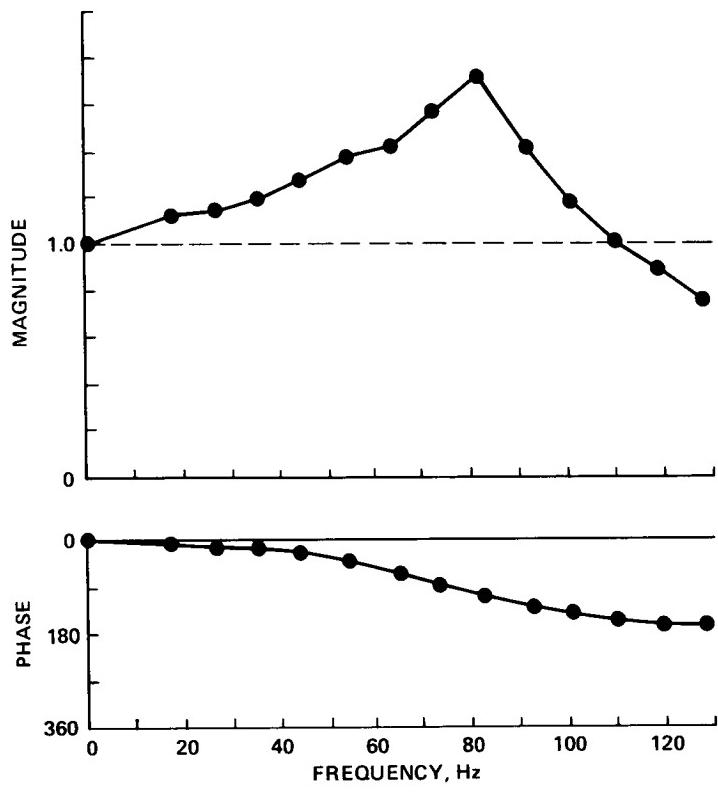


Figure B1

Frequency Response at  $\pm 1.0$  Volts Excitation.

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1 2 3 4

300° Position  
Feedback

300° Position  
Command

180° Position  
Feedback

180° Position  
Command

60° Position  
Feedback

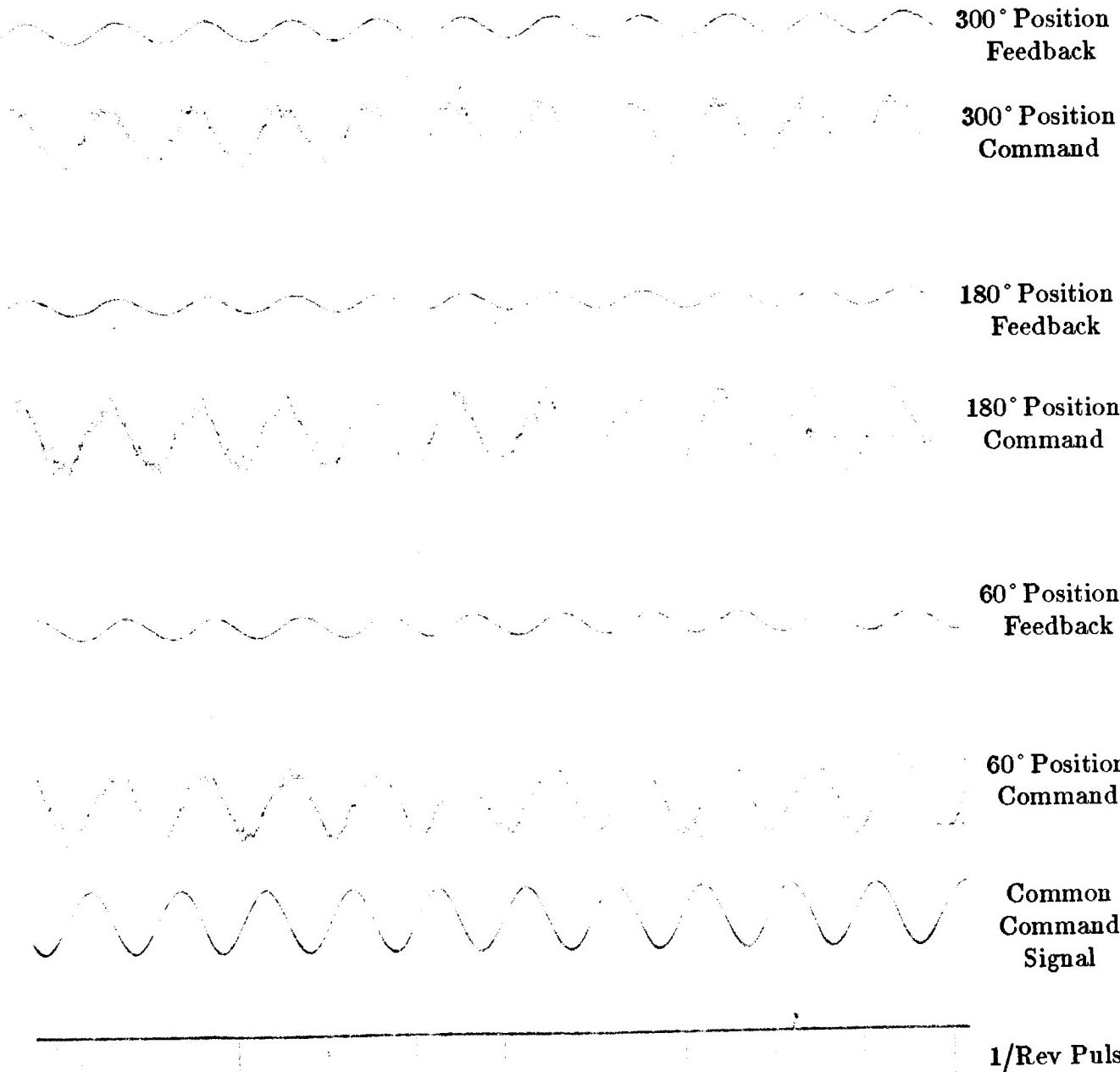
60° Position  
Command

Common  
Command  
Signal

1/Rev Pulse

2.0 Volts Half Peak-To-Peak Input at 1.0 Hz.

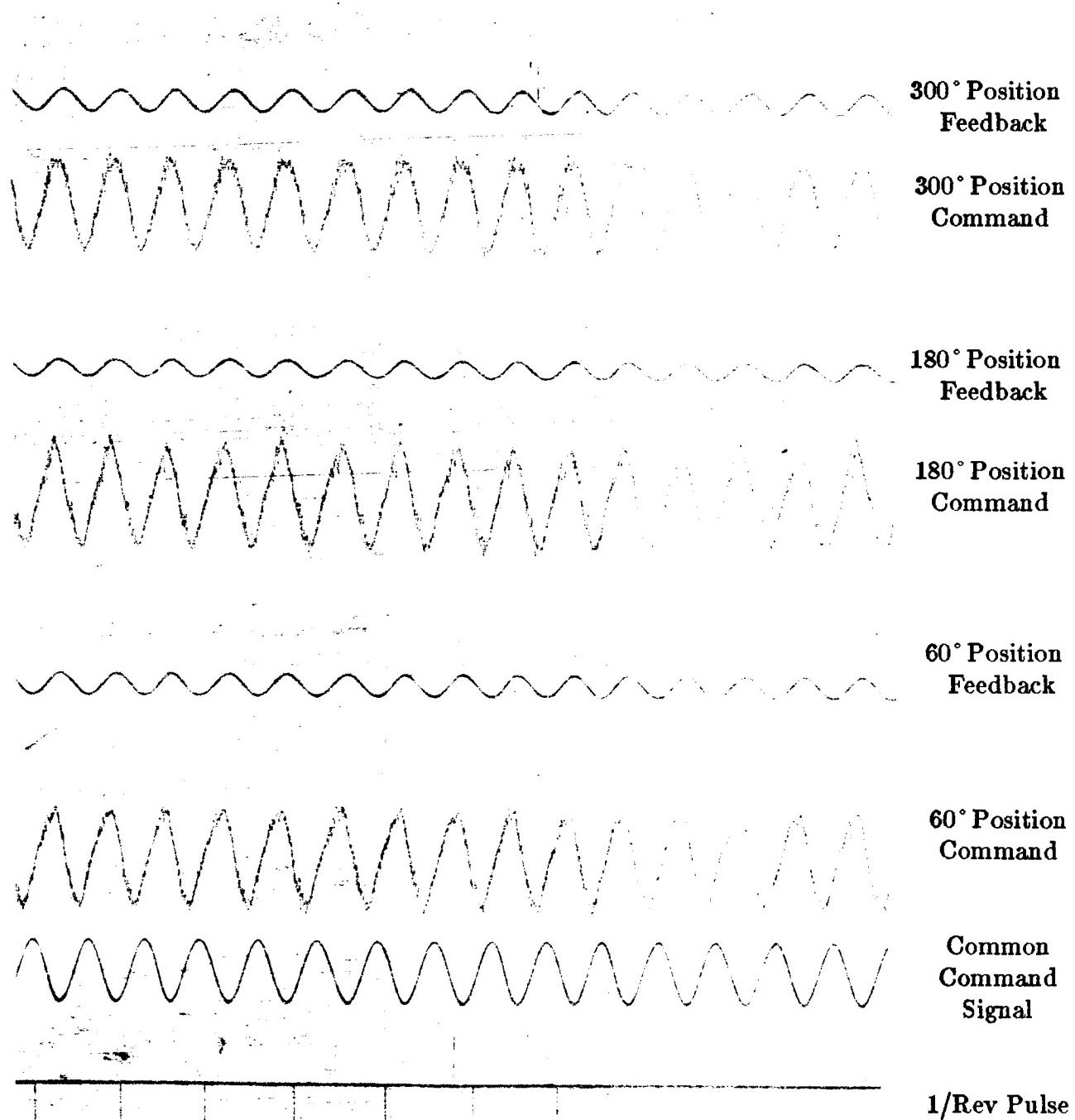
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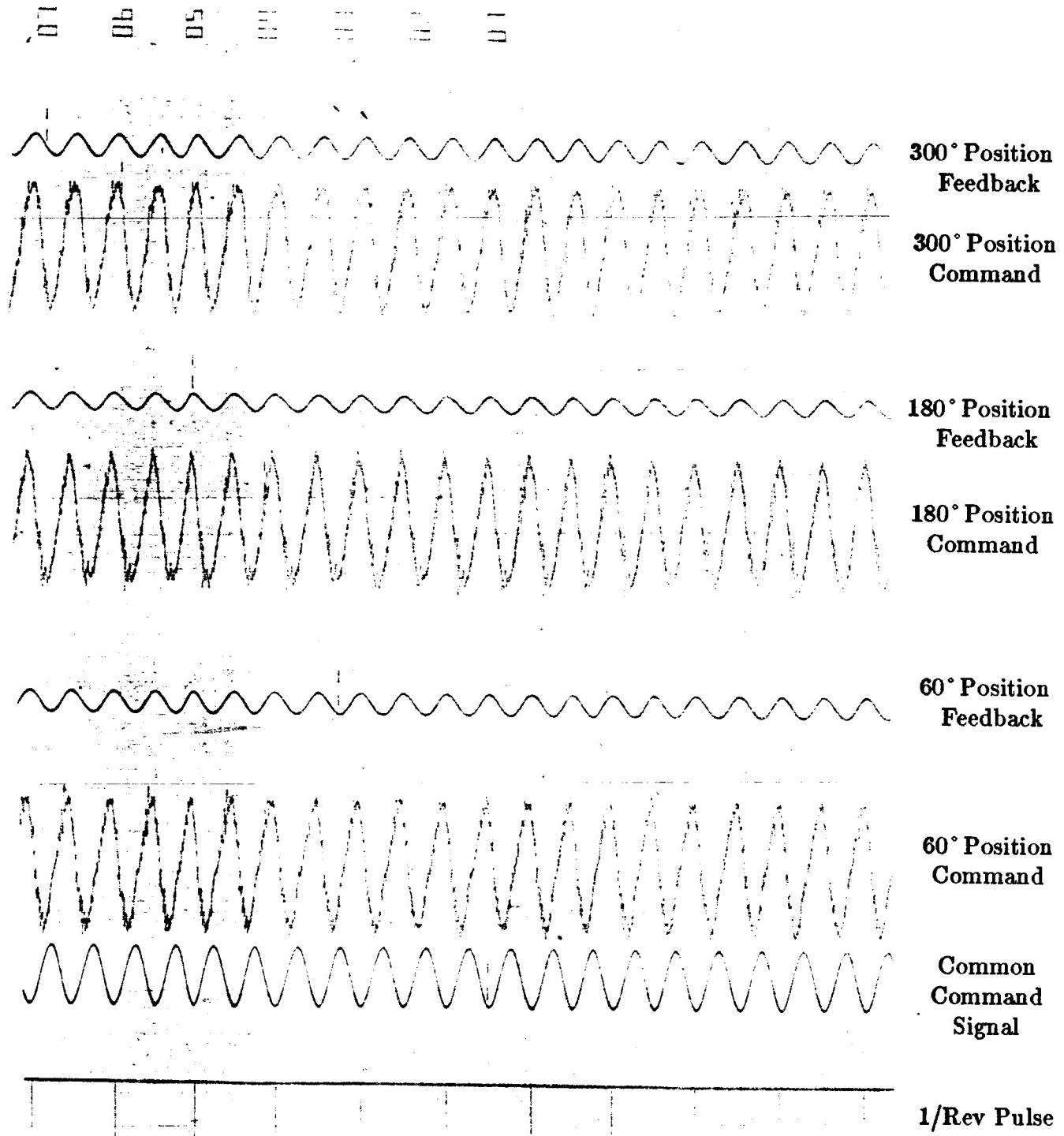
2.0 Volts Half Peak-To-Peak Input at 18.3 Hz.

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2 3 4 5 6 7 8

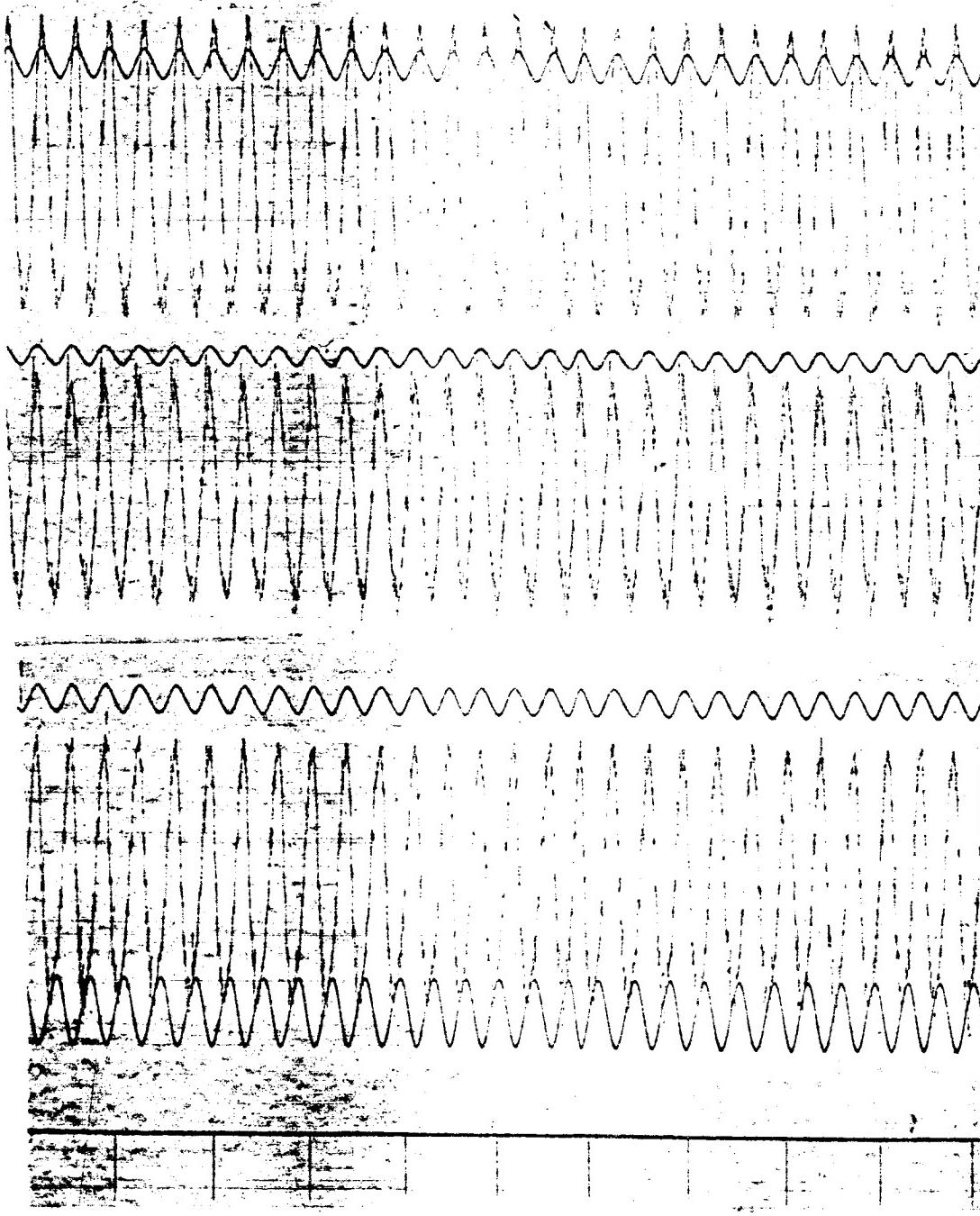


2.0 Volts Half Peak-To-Peak Input at 27.5 Hz.



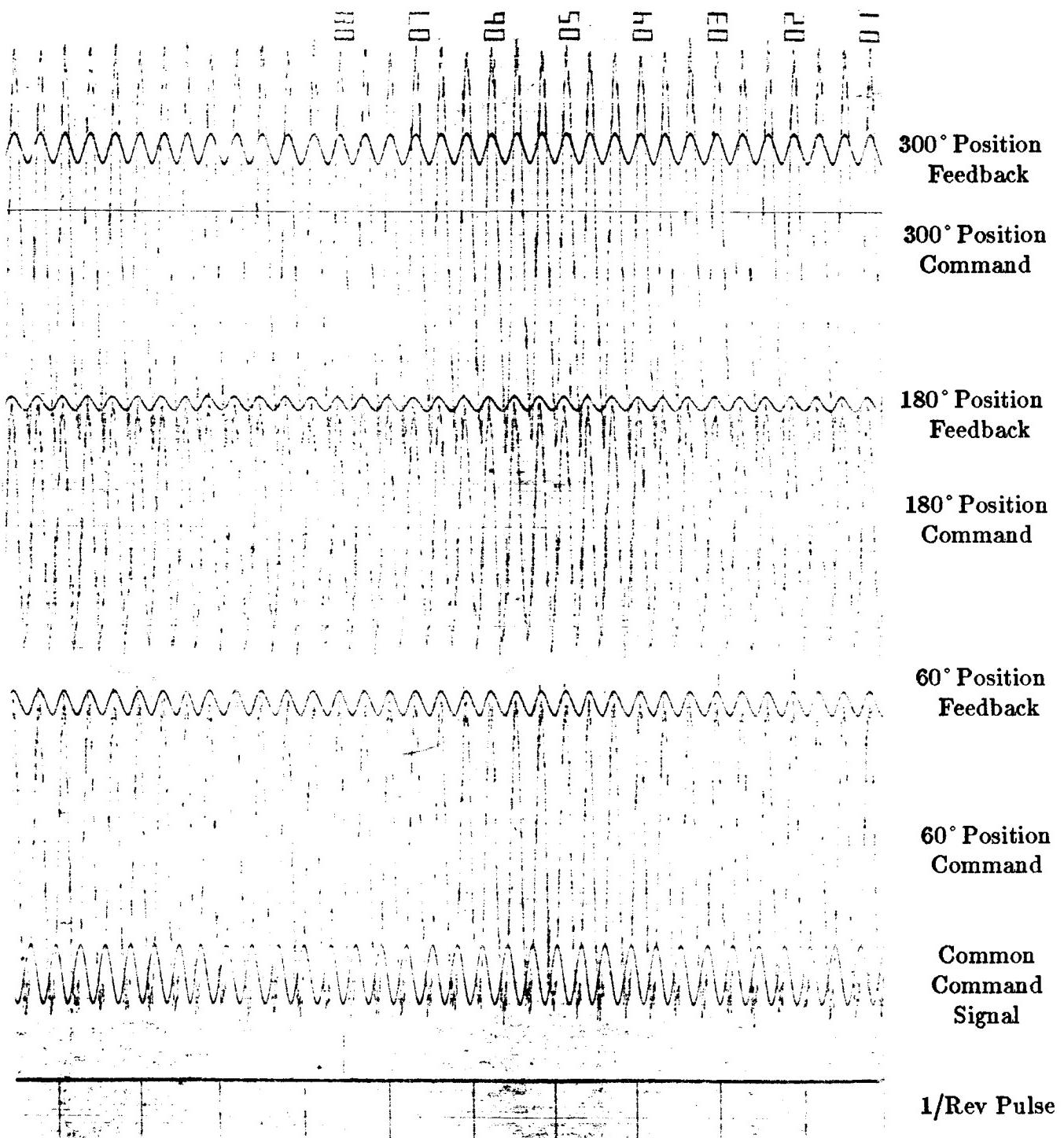
2.0 Volts Half Peak-To-Peak Input at 36.6 Hz.

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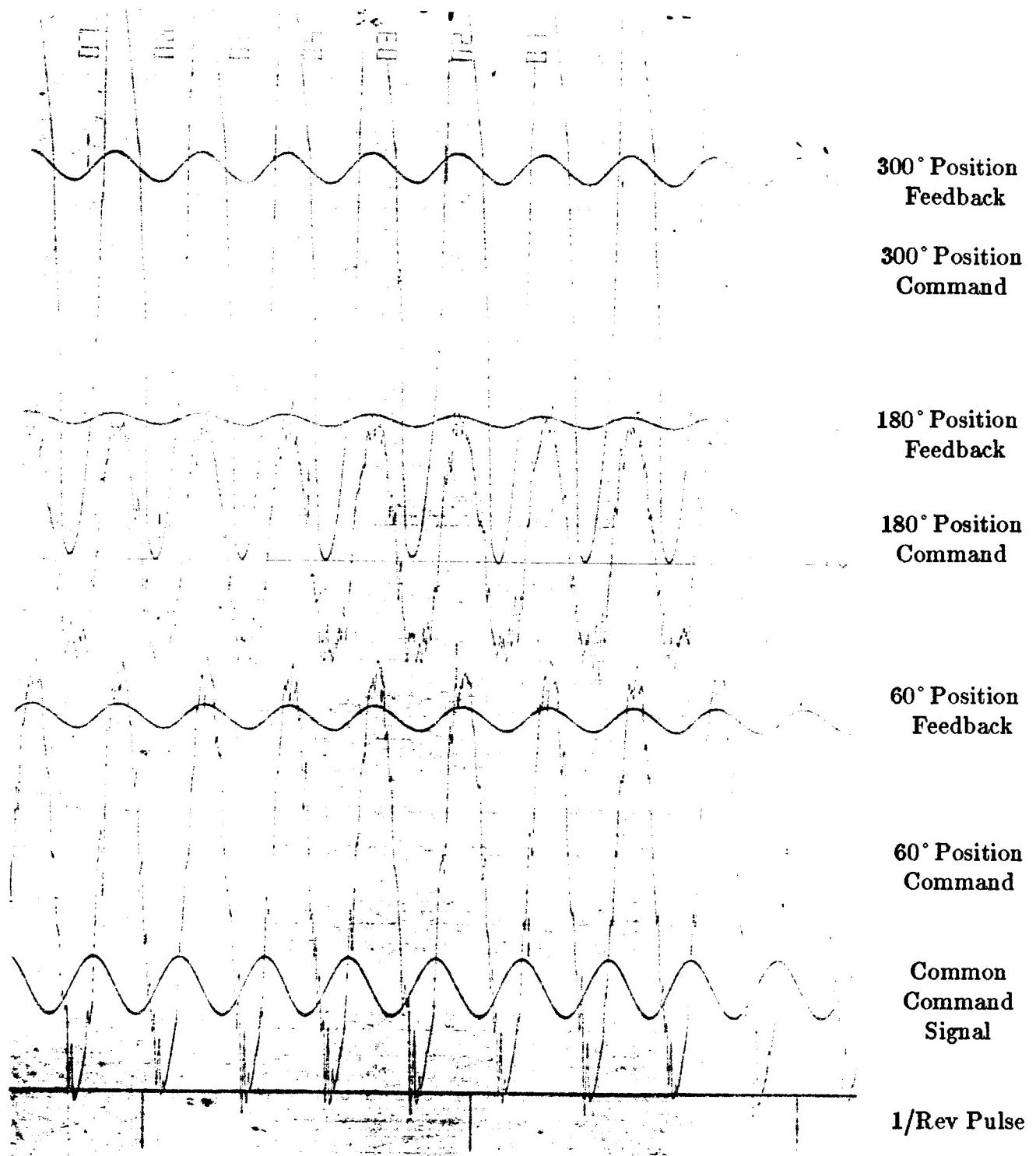
2.0 Volts Half Peak-To-Peak Input at 45.8 Hz.

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**2.0 Volts Half Peak-To-Peak Input at 55.0 Hz.**

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2.0 Volts Half Peak-To-Peak Input at 64.2 Hz.

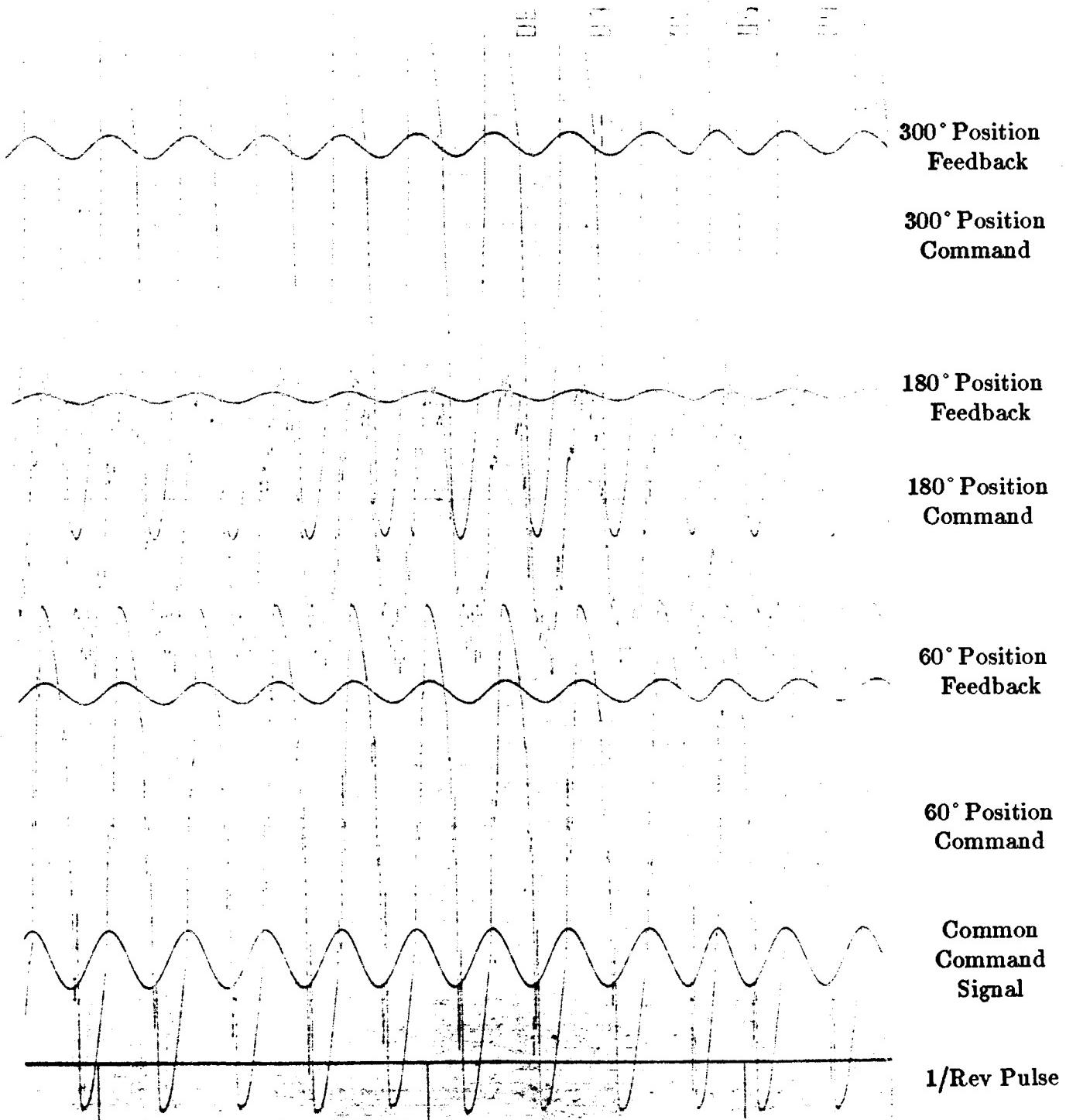
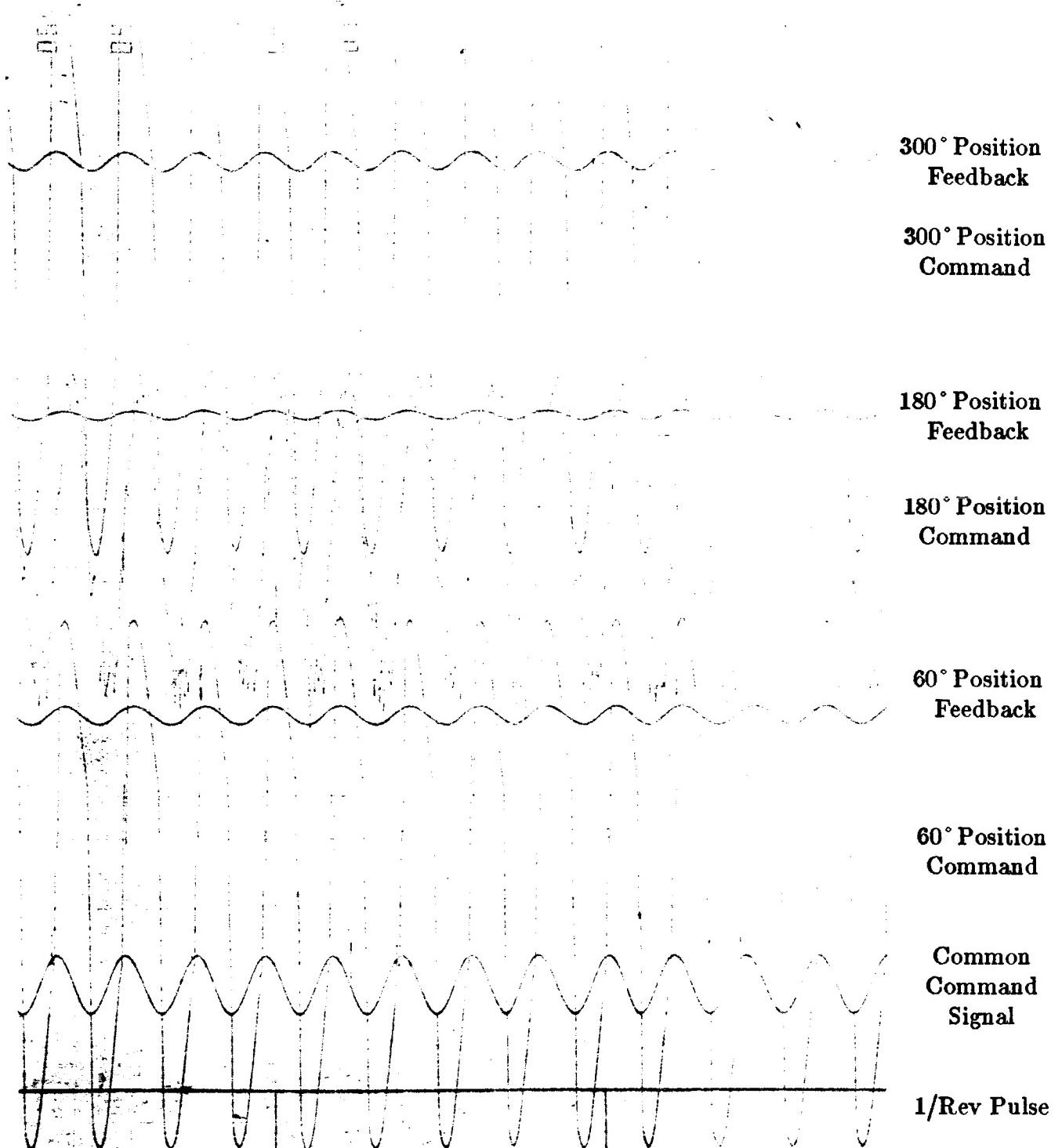
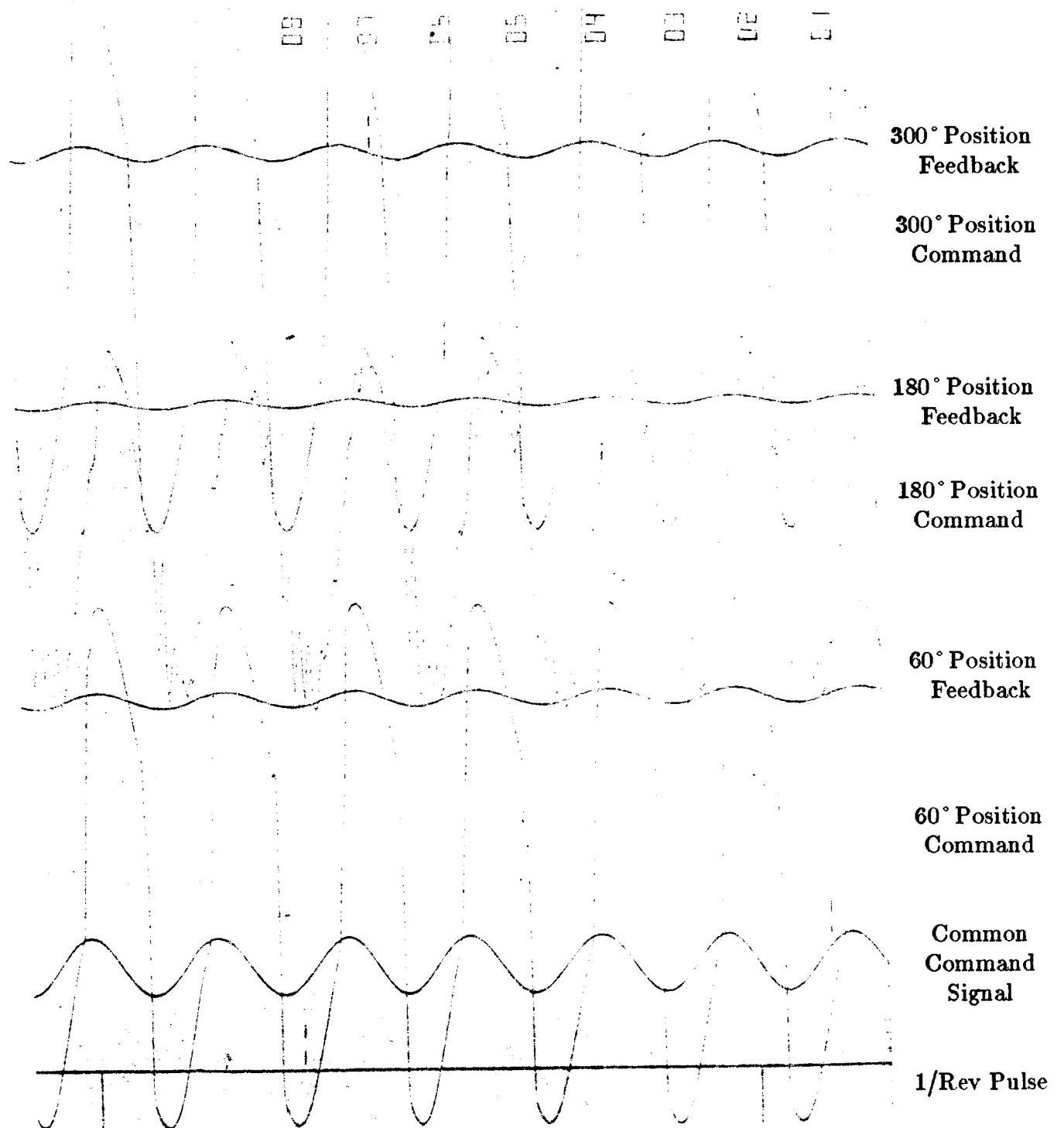


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2.0 Volts Half Peak-To-Peak Input at 82.5 Hz.



2.0 Volts Half Peak-To-Peak Input at 91.6 Hz.

Table B3

Summary of actuator frequency response data for  
2.0 volts half peak-to-peak command input.

Frequency Per/Rev	Frequency In Hz	Magnitude In Counts	Relative Magnitude	Magnitude In ± Degs	Phase In Degs
	1.0	360	1.00	0.66	0
1.0/Rev	18.3	359	0.99	0.65	5
1.5/Rev	27.5	399	1.10	0.73	10
2.0/Rev	36.6	389	1.08	0.71	27
2.5/Rev	45.8	472	1.31	0.86	45
3.0/Rev	55.0	502	1.39	0.92	78
3.5/Rev	64.2	523	1.45	0.96	90
4.0/Rev	73.3	436	1.21	0.80	112
4.5/Rev	82.5	347	0.96	0.63	135
5.0/Rev	91.6	301	0.83	0.55	150
5.5/Rev	100.8	264	0.73	0.48	166
6.0/Rev	110.0	228	0.63	0.42	180
6.5/Rev	119.2	193	0.53	0.35	185
7.0/Rev	128.3	191	0.53	0.35	190

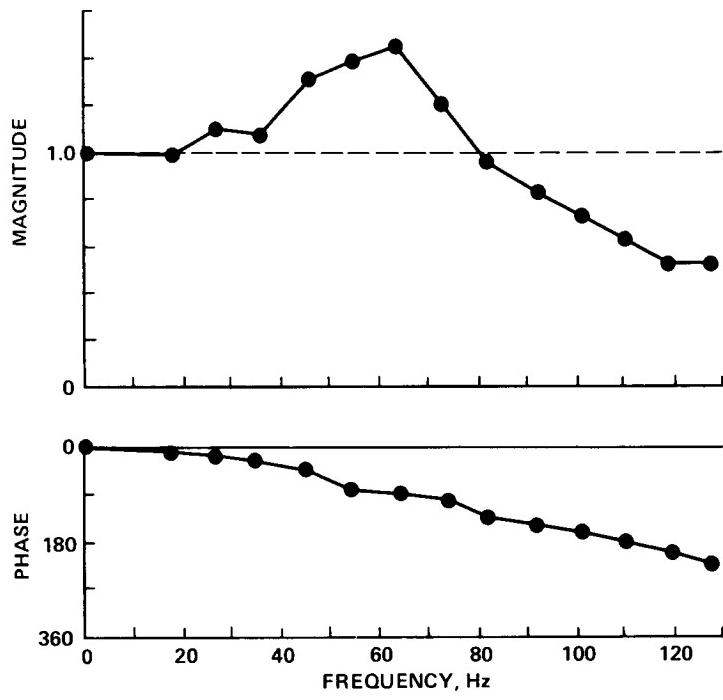
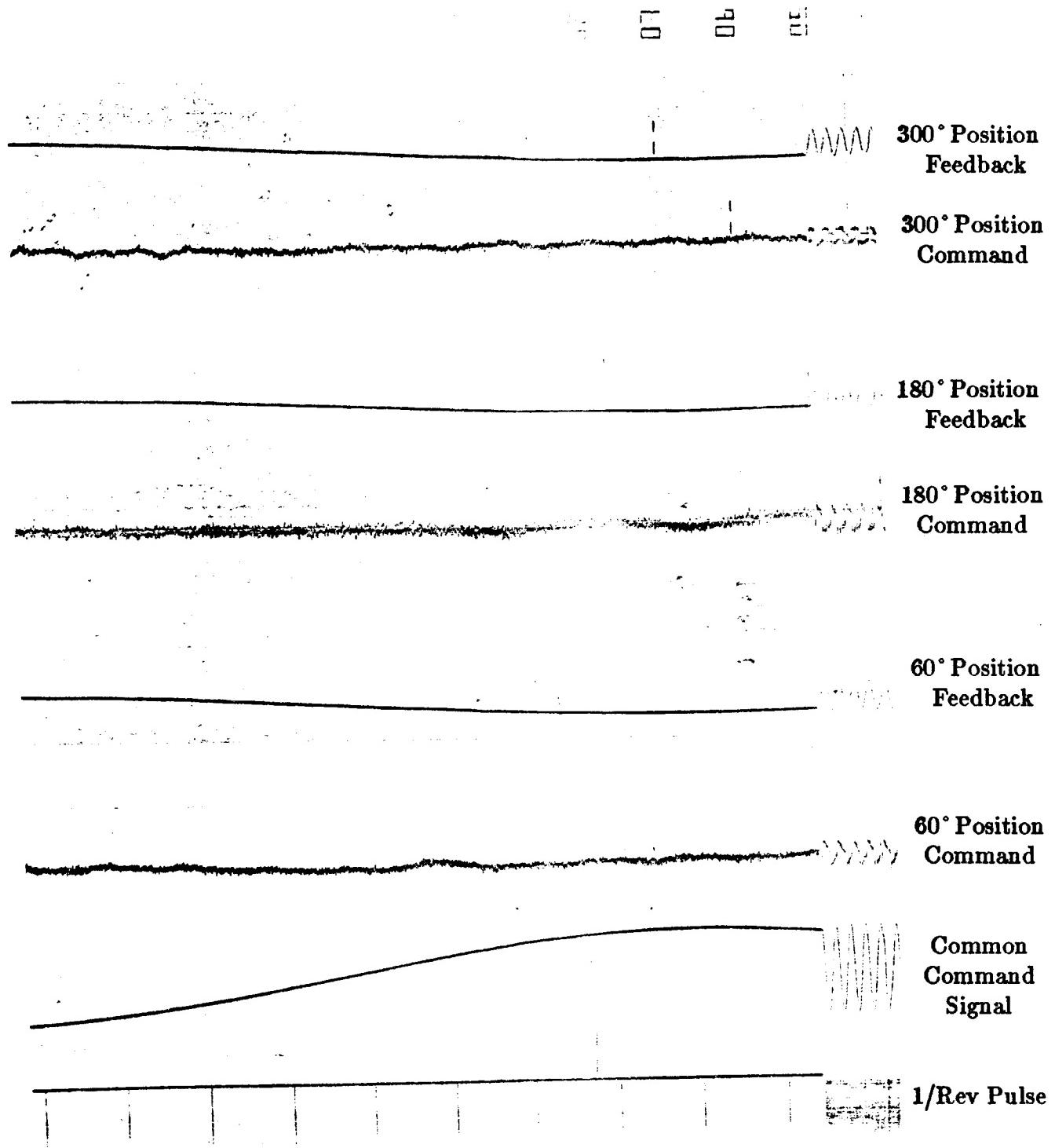


Figure B2

Frequency Response at  $\pm$  2.0 Volts Excitation.



3.0 Volts Half Peak-To-Peak Input at 1.0 Hz.

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E E U E E E E



300° Position  
Feedback



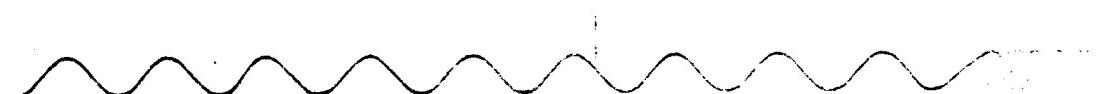
300° Position  
Command



180° Position  
Feedback



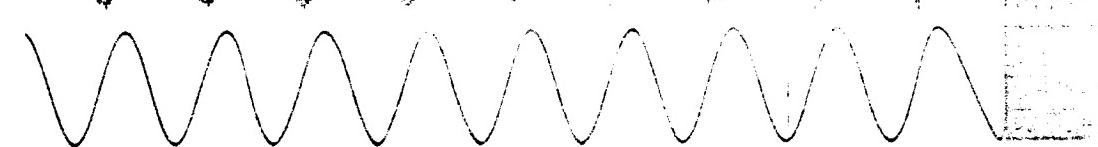
180° Position  
Command



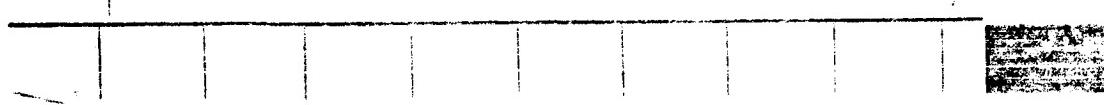
60° Position  
Feedback



60° Position  
Command

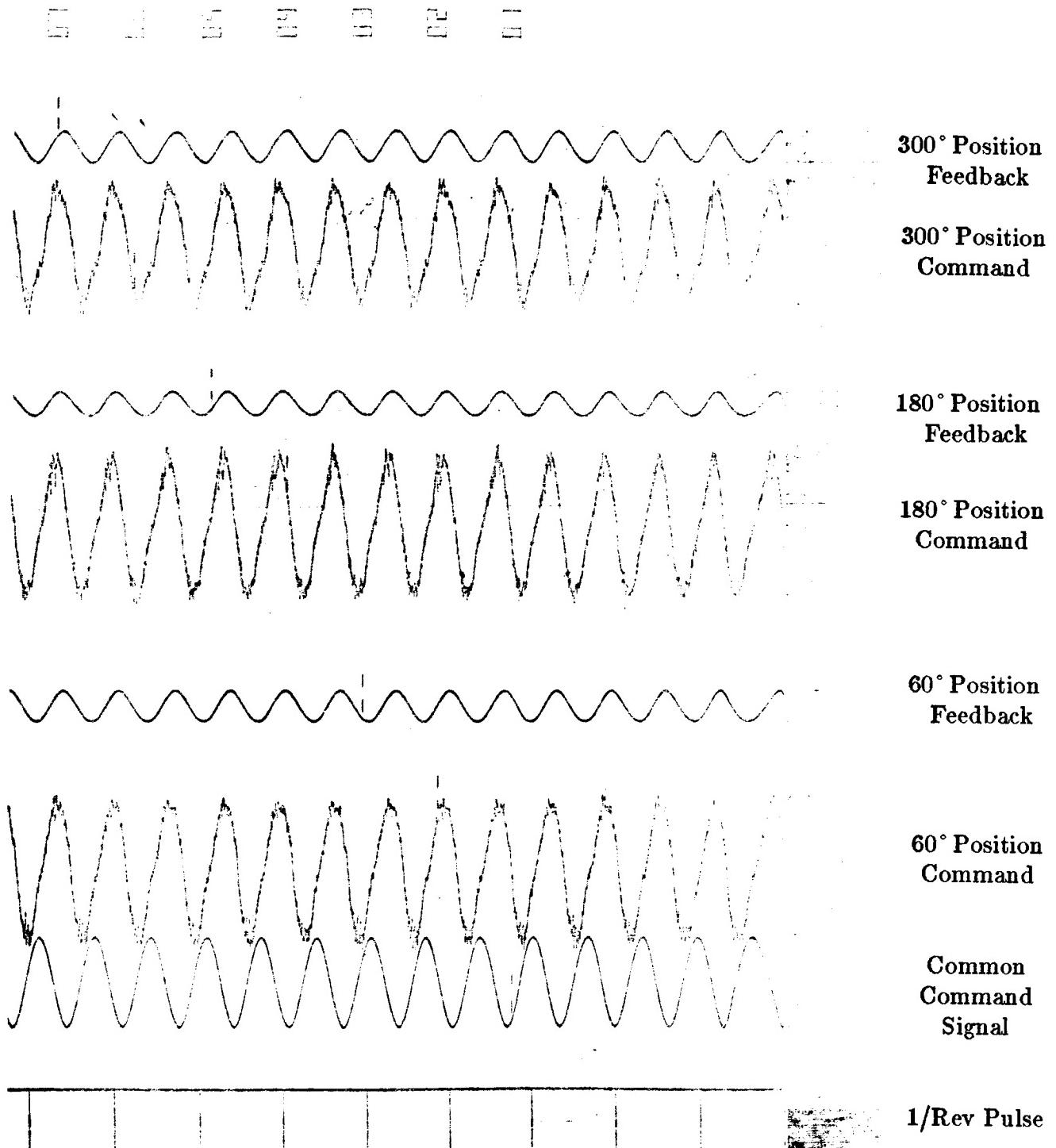


Common  
Command  
Signal

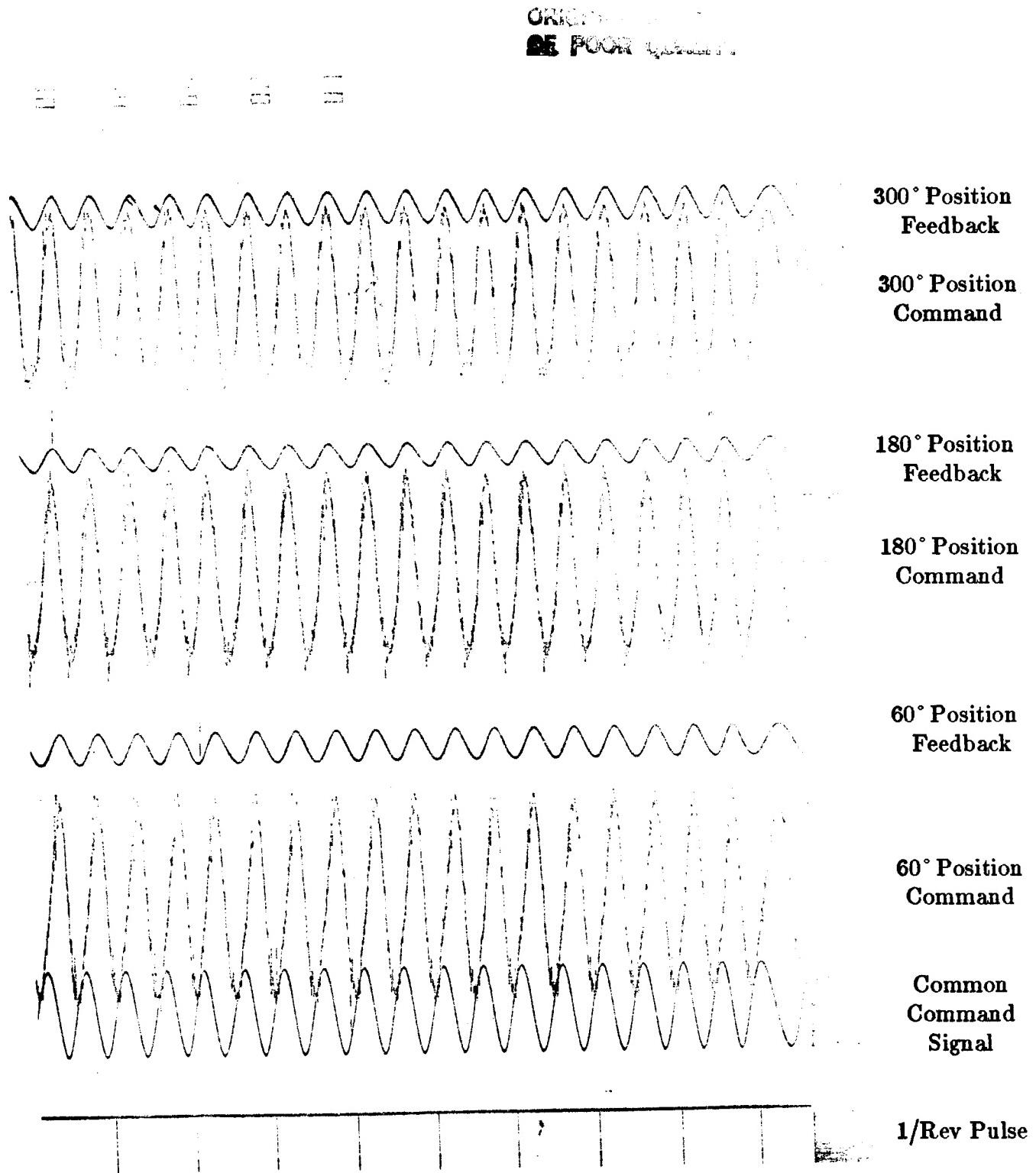


1/Rev Pulse

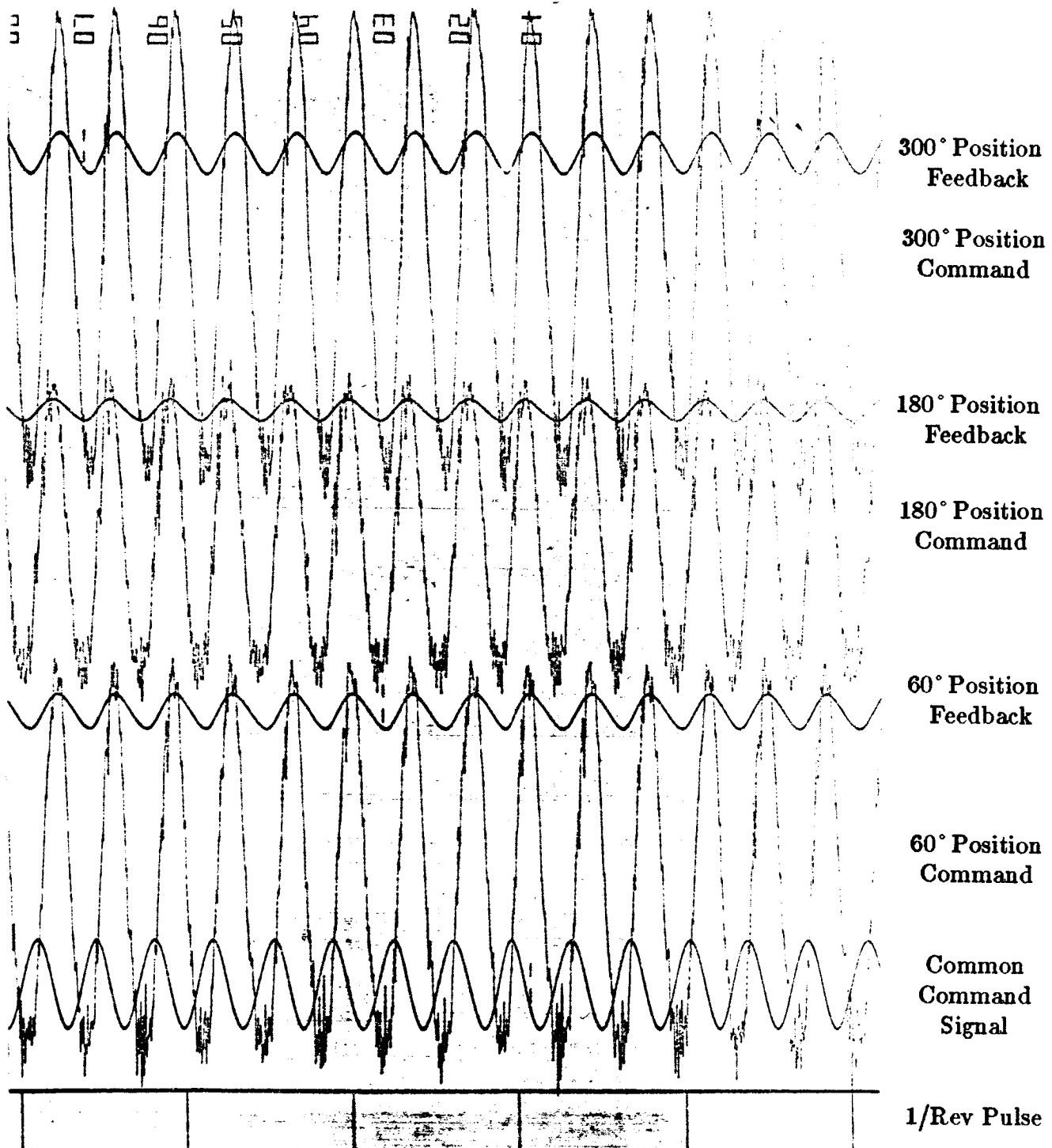
3.0 Volts Half Peak-To-Peak Input at 18.3 Hz.



3.0 Volts Half Peak-To-Peak Input at 27.5 Hz.

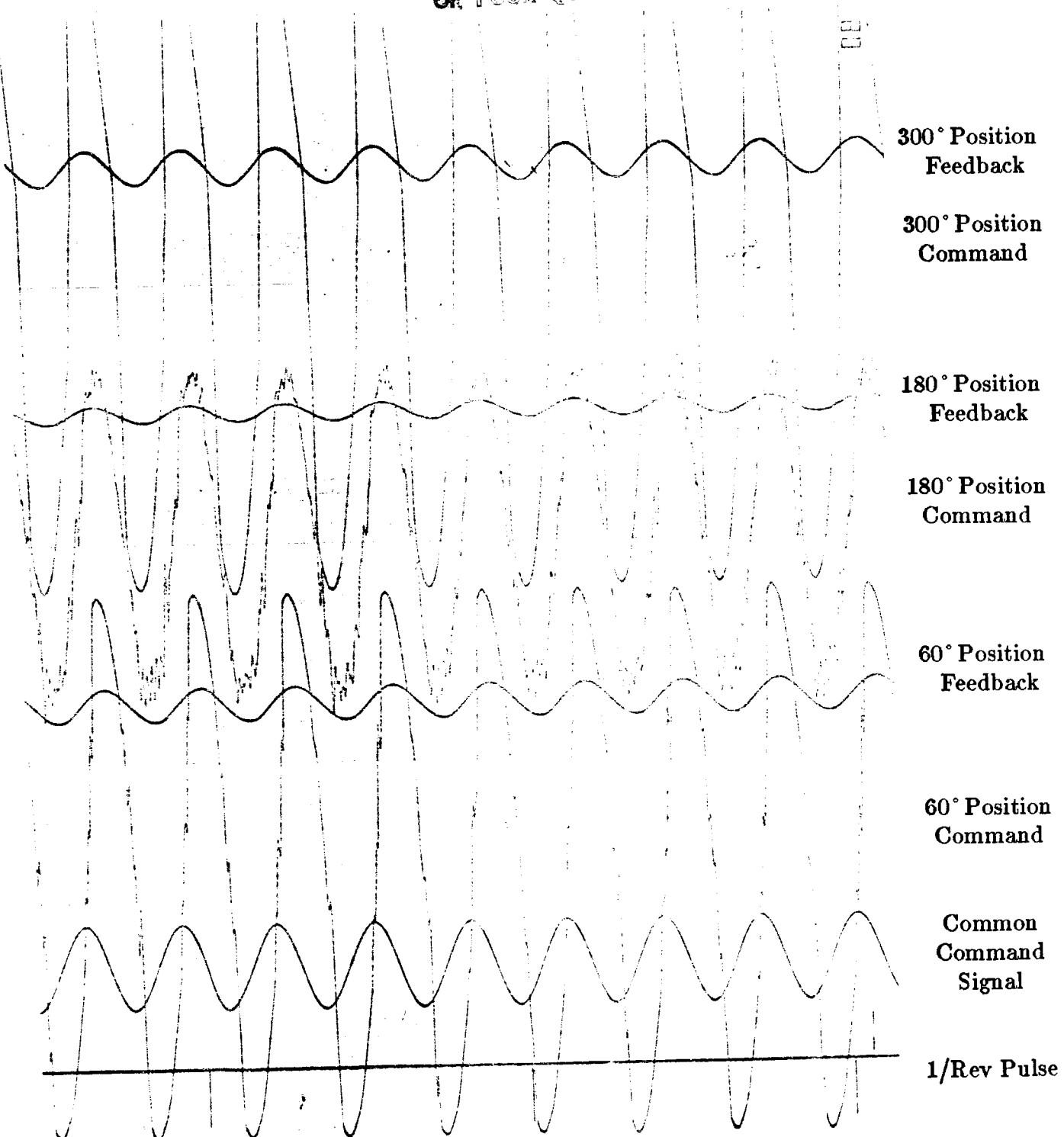


3.0 Volts Half Peak-To-Peak Input at 36.6 Hz.

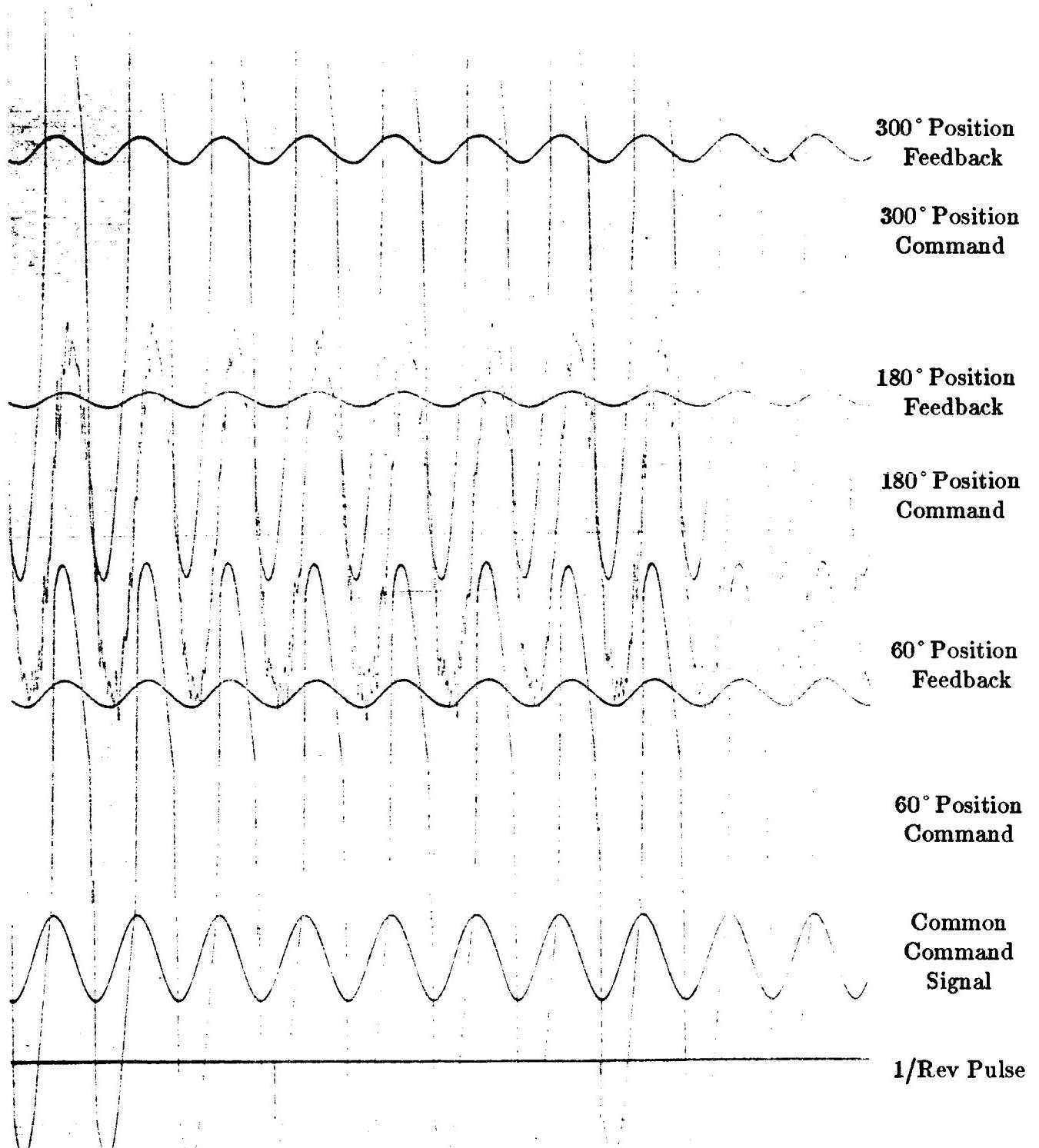


3.0 Volts Half Peak-To-Peak Input at 45.8 Hz.

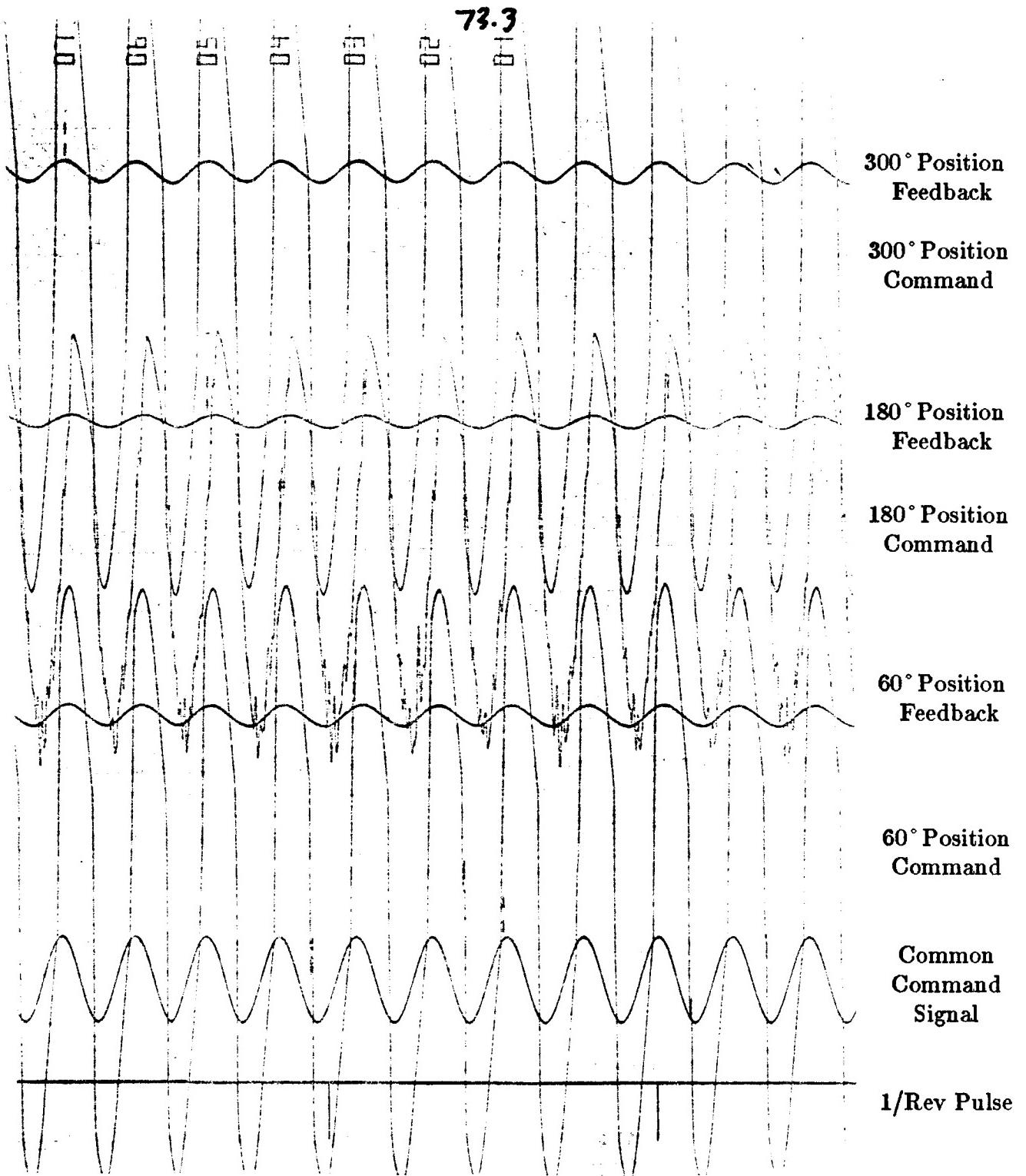
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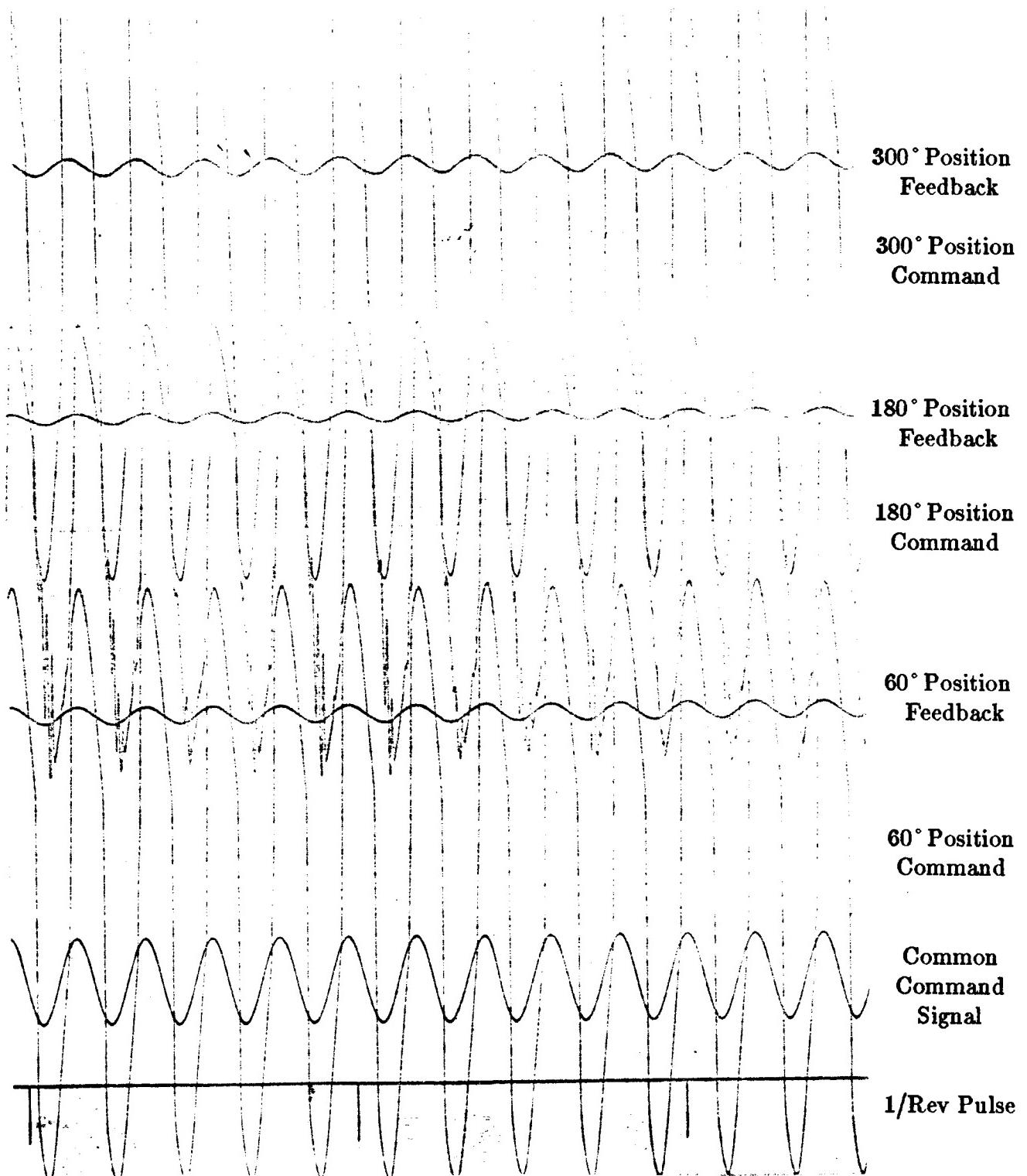
3.0 Volts Half Peak-To-Peak Input at 55.0 Hz.



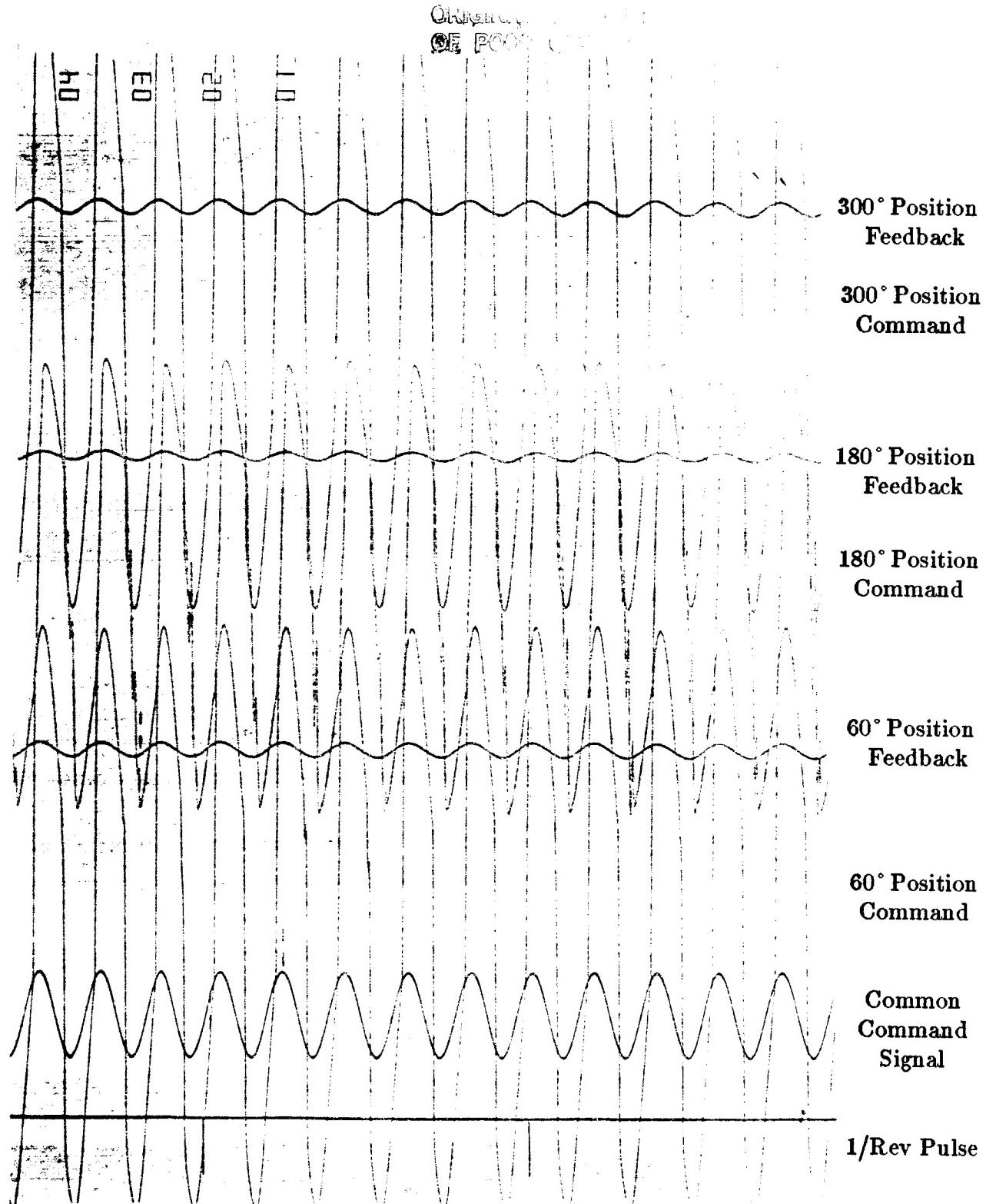
3.0 Volts Half Peak-To-Peak Input at 64.2 Hz.



3.0 Volts Half Peak-To-Peak Input at 73.3 Hz.

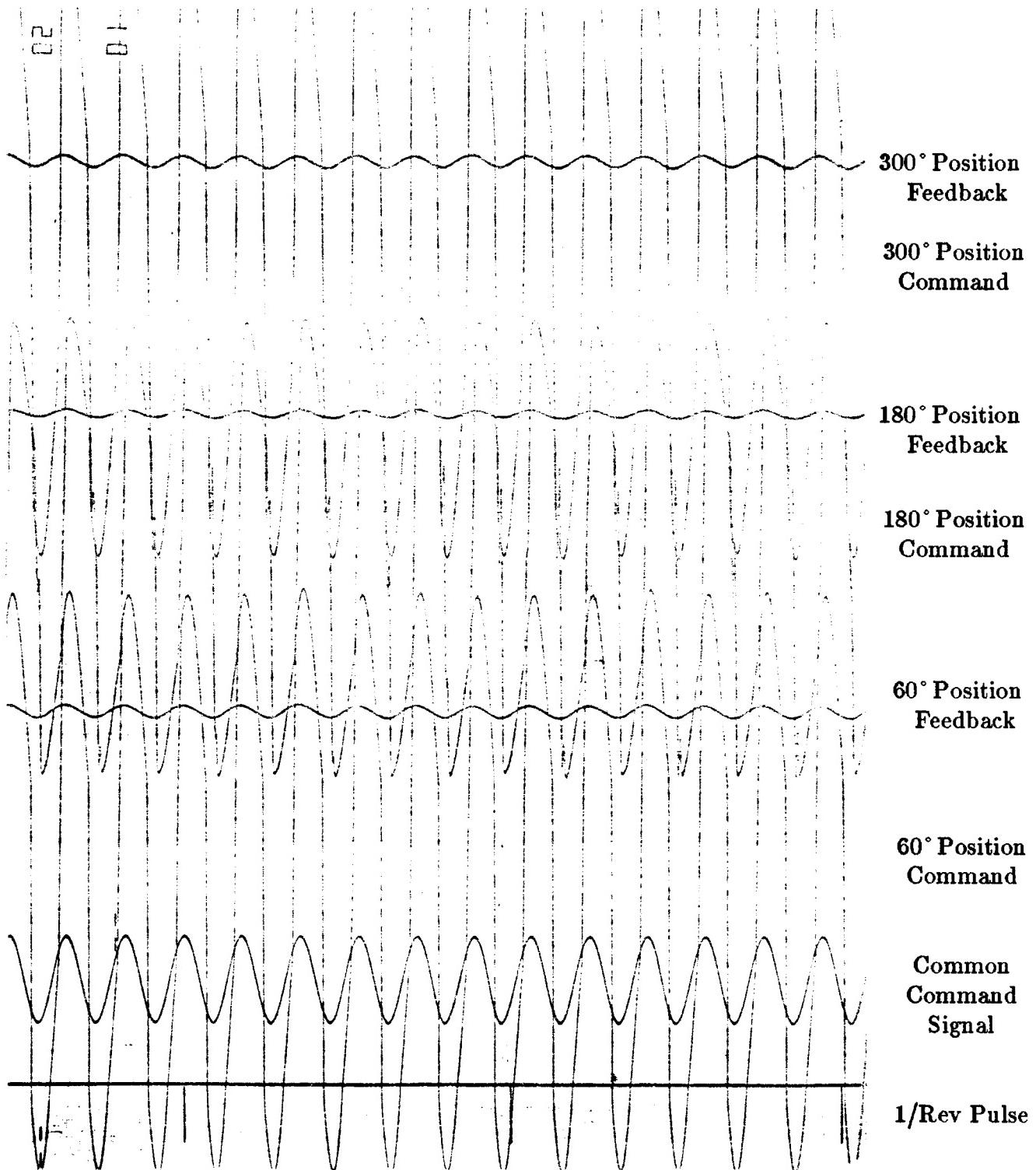


3.0 Volts Half Peak-To-Peak Input at 82.5 Hz.

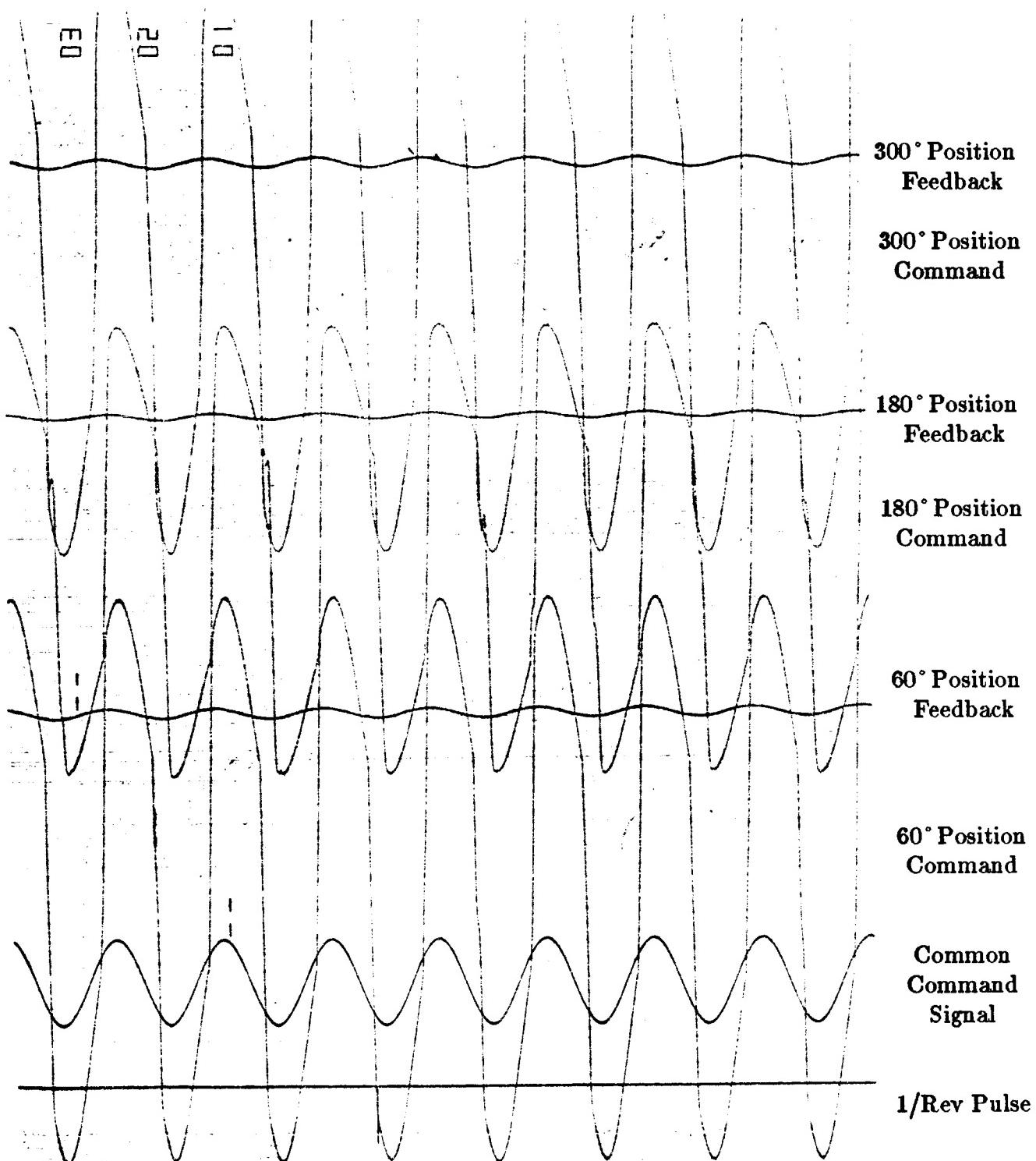


3.0 Volts Half Peak-To-Peak Input at 91.6 Hz.

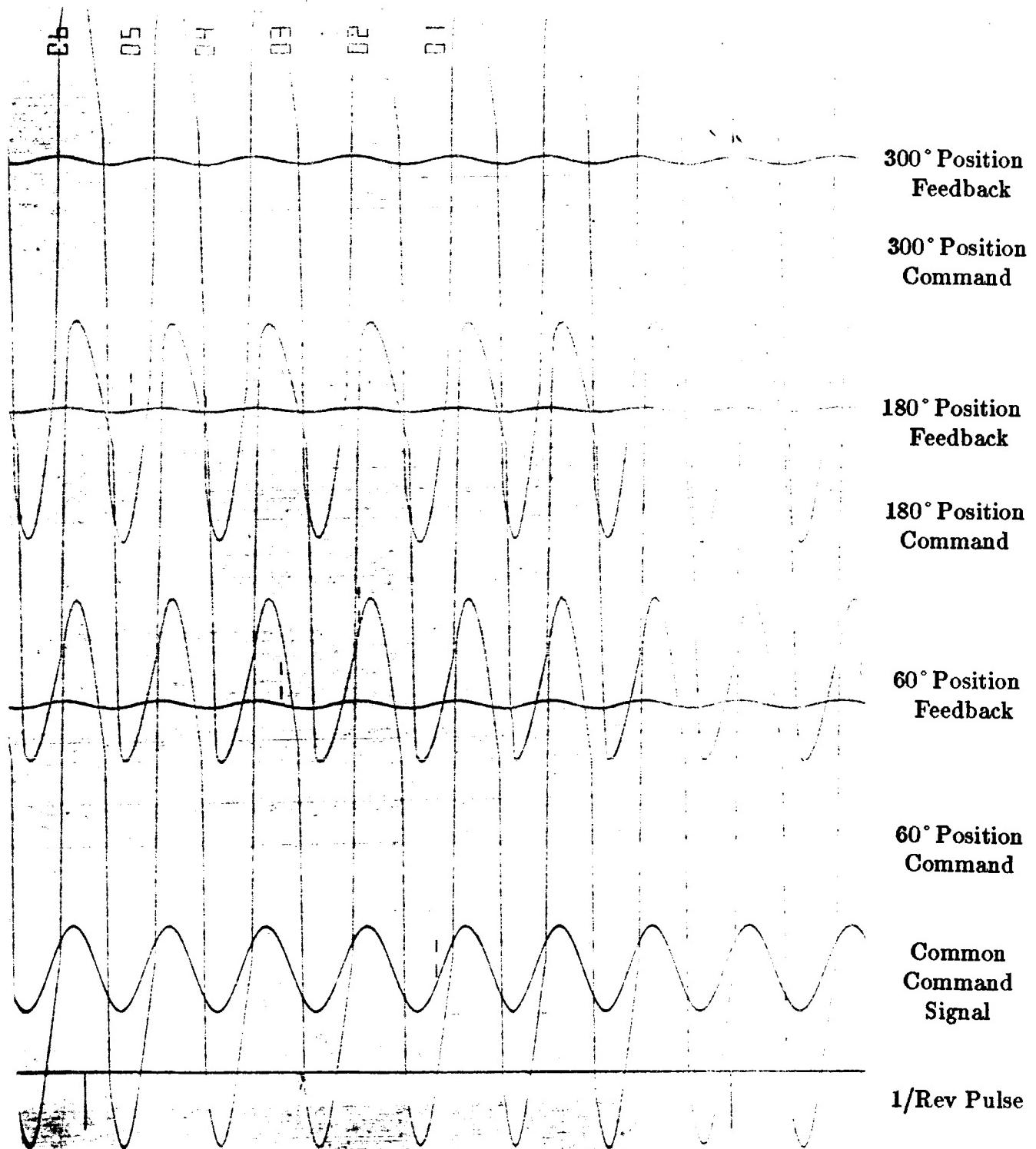
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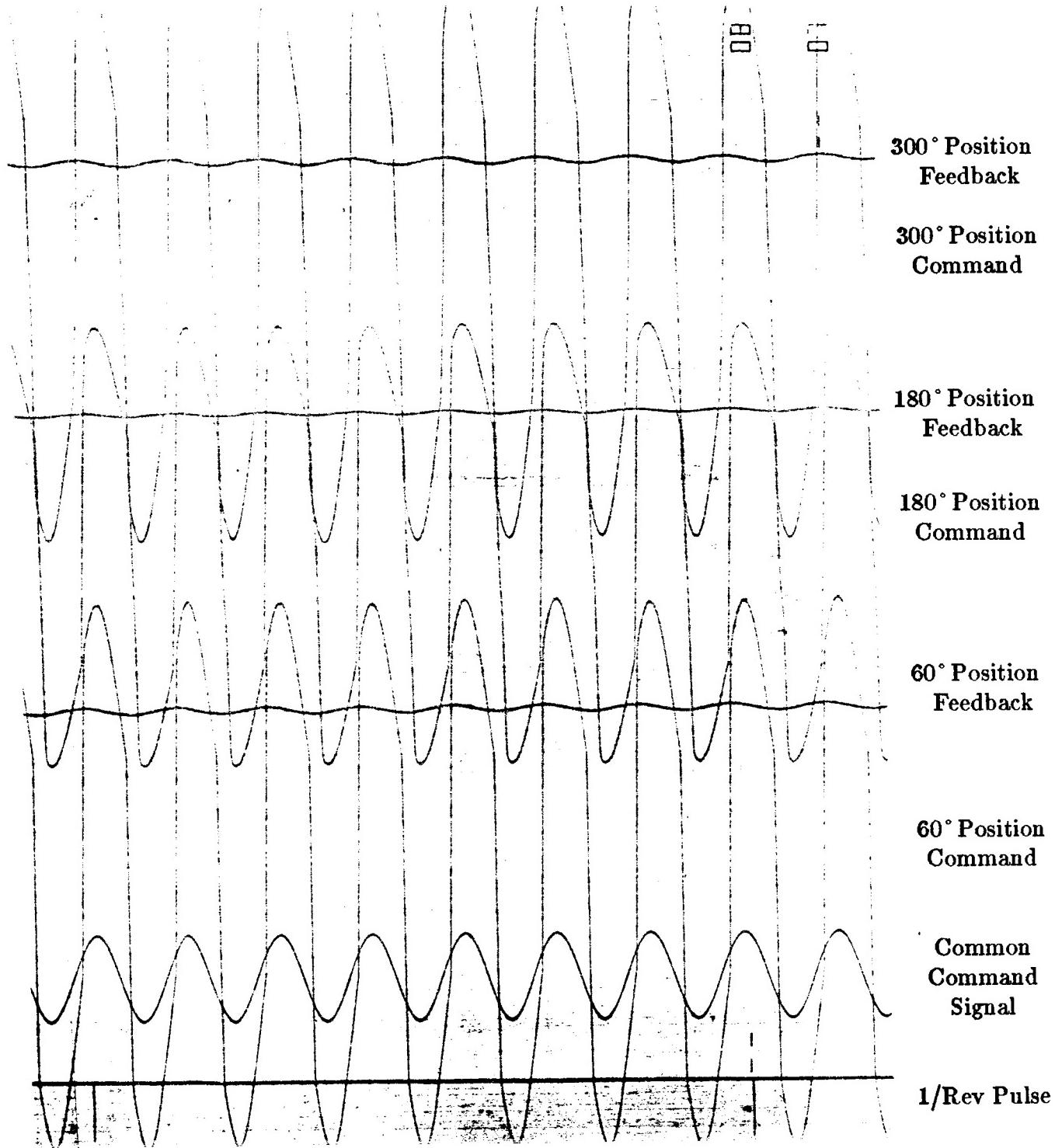
3.0 Volts Half Peak-To-Peak Input at 100.8 Hz.



3.0 Volts Half Peak-To-Peak Input at 110.0 Hz.



3.0 Volts Half Peak-To-Peak Input at 119.2 Hz.



**3.0 Volts Half Peak-To-Peak Input at 128.3 Hz.**

Table B4

Summary of actuator frequency response data for  
3.0 volts half peak-to-peak command input.

Frequency Per/Rev	Frequency In Hz	Magnitude In Counts	Relative Magnitude	Magnitude In ± Degs	Phase In Degs
	1.0	488	1.00	1.00	0
1.0/Rev	18.3	528	1.08	1.08	5
1.5/Rev	27.5	515	1.05	1.05	11
2.0/Rev	36.6	575	1.17	1.17	20
2.5/Rev	45.8	679	1.39	1.39	45
3.0/Rev	55.0	621	1.27	1.27	80
3.5/Rev	64.2	496	1.01	1.01	120
4.0/Rev	73.3	393	0.80	0.80	150
4.5/Rev	82.5	348	0.71	0.71	160
5.0/Rev	91.6	308	0.62	0.62	170
5.5/Rev	100.8	256	0.52	0.52	180
6.0/Rev	110.0	214	0.43	0.43	190
6.5/Rev	119.2	211	0.43	0.43	202
7.0/Rev	128.3	170	0.34	0.34	215

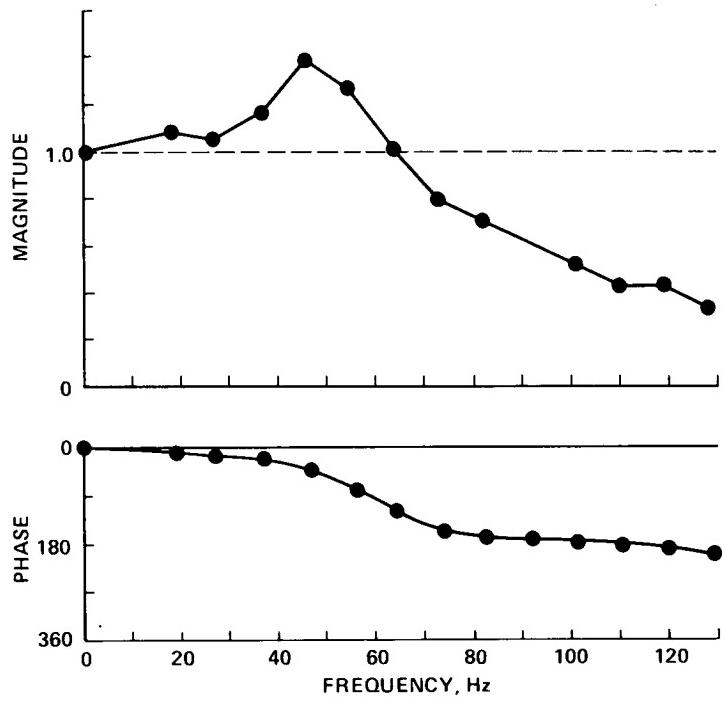


Figure B3  
Frequency Response at  $\pm$  3.0 Volts Excitation.

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E D H

300° Position  
Feedback

300° Position  
Command

180° Position  
Feedback

180° Position  
Command

60° Position  
Feedback

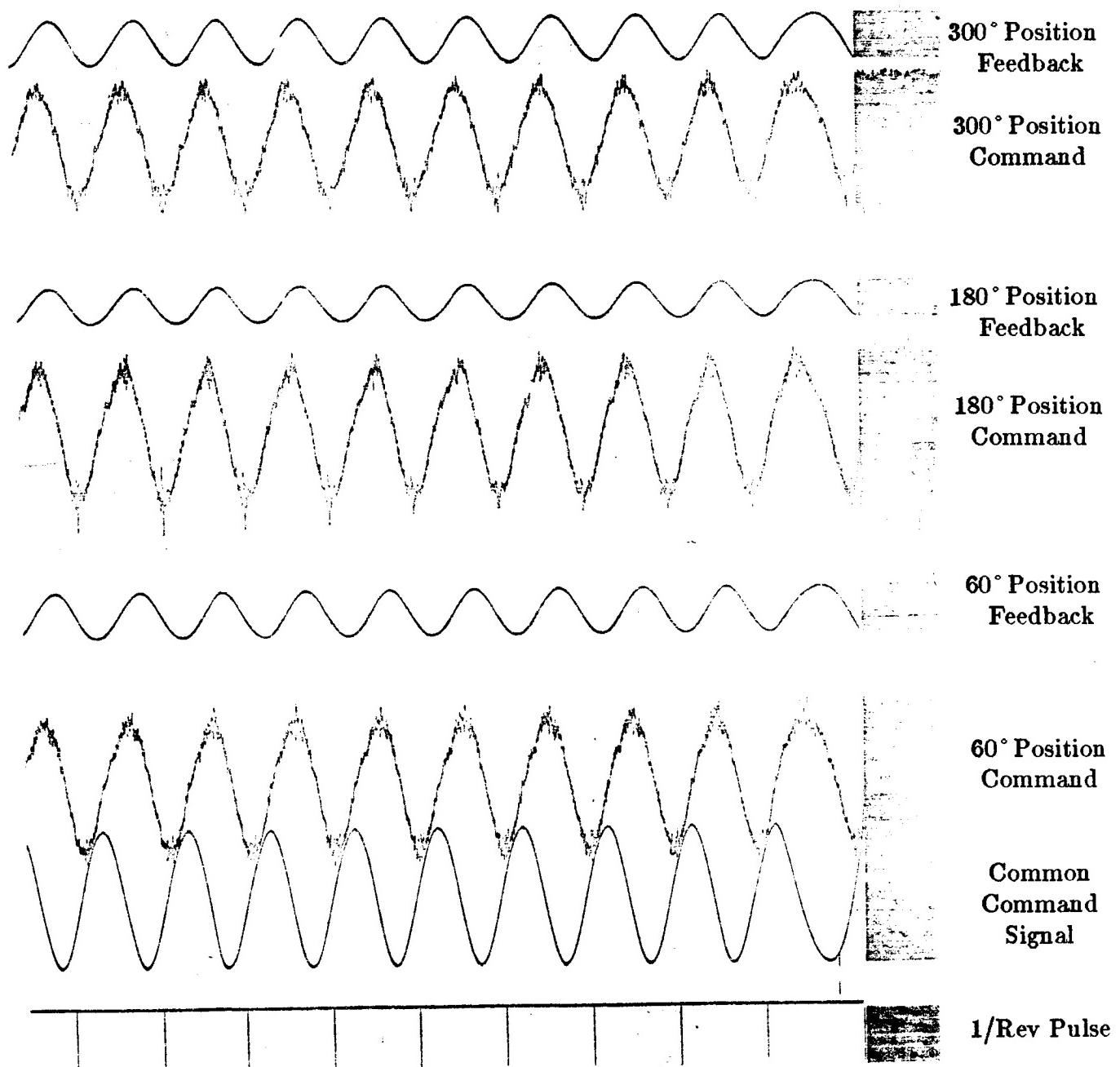
60° Position  
Command

Common  
Command  
Signal

1/Rev Pulse

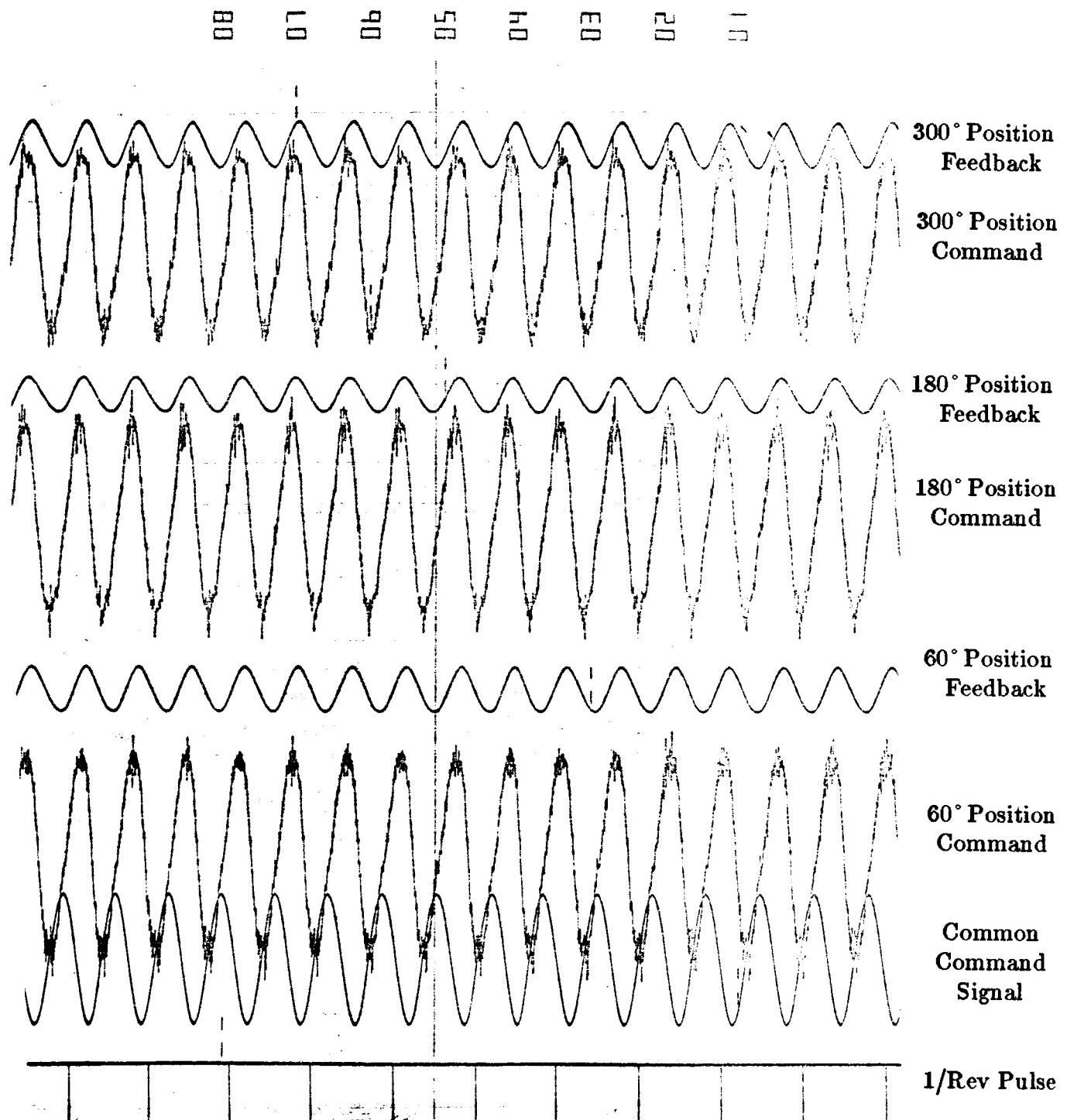
4.5 Volts Half Peak-To-Peak Input at 1.0 Hz.

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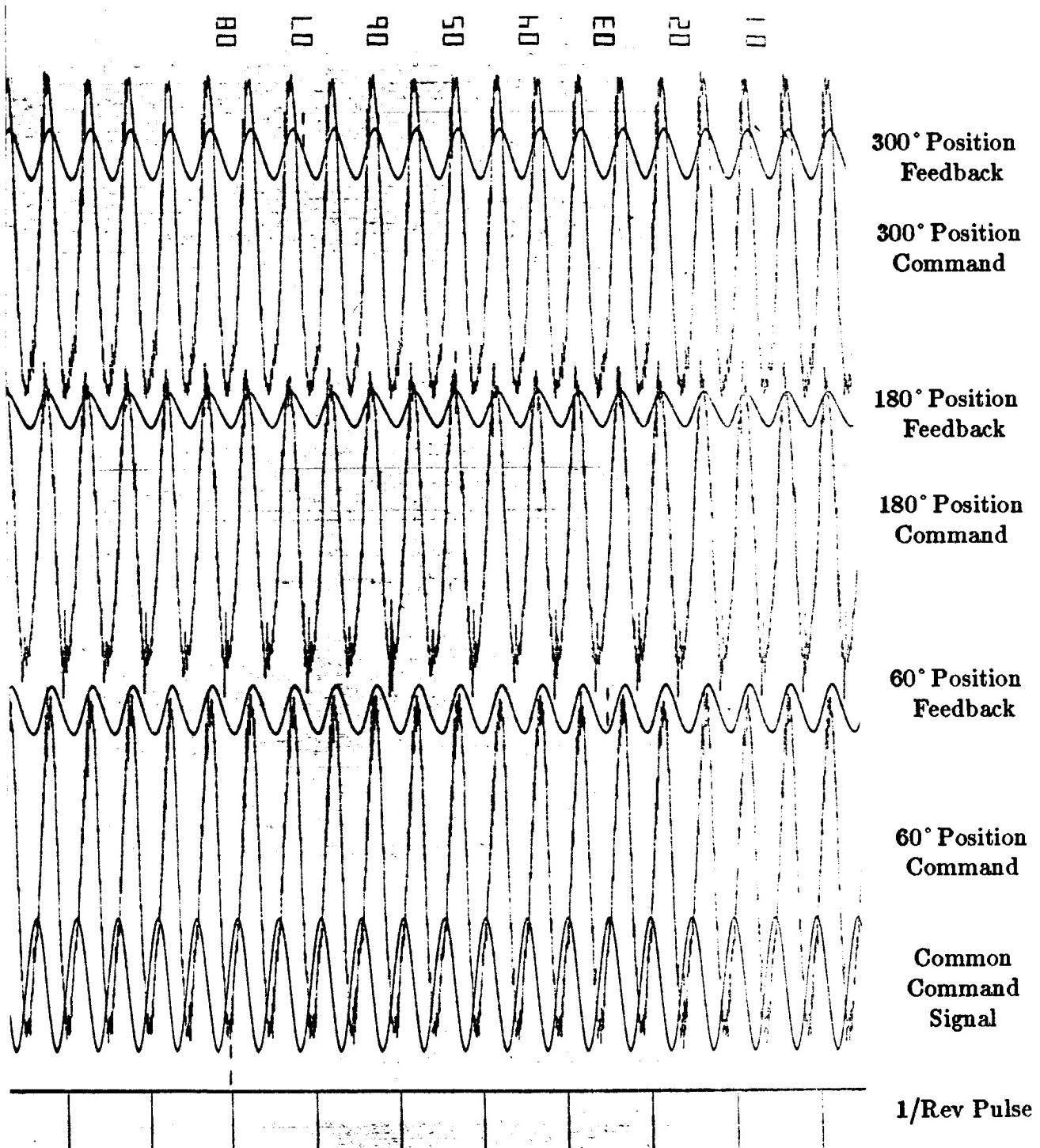


4.5 Volts Half Peak-To-Peak Input at 18.3 Hz.

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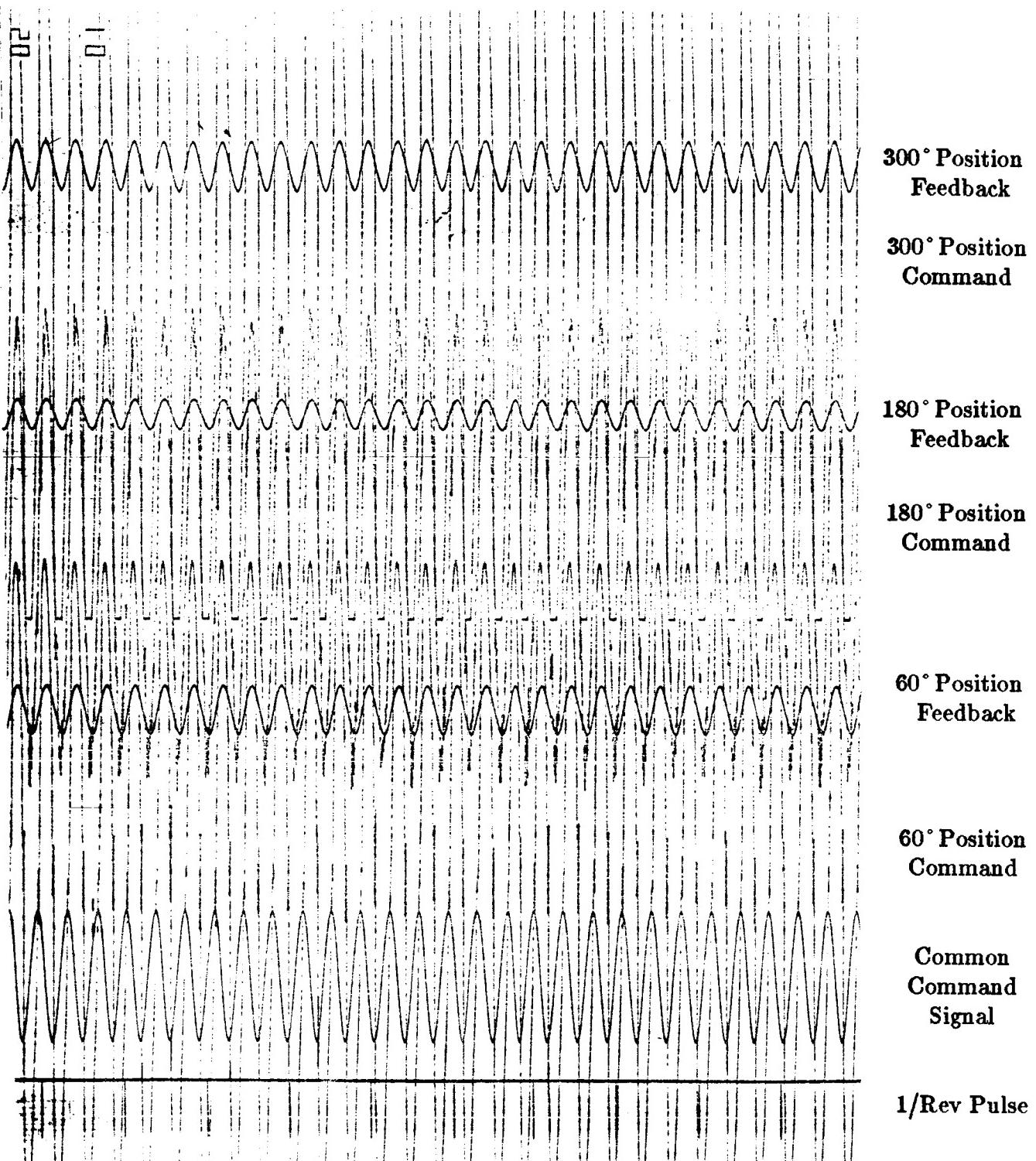


4.5 Volts Half Peak-To-Peak Input at 27.5 Hz.

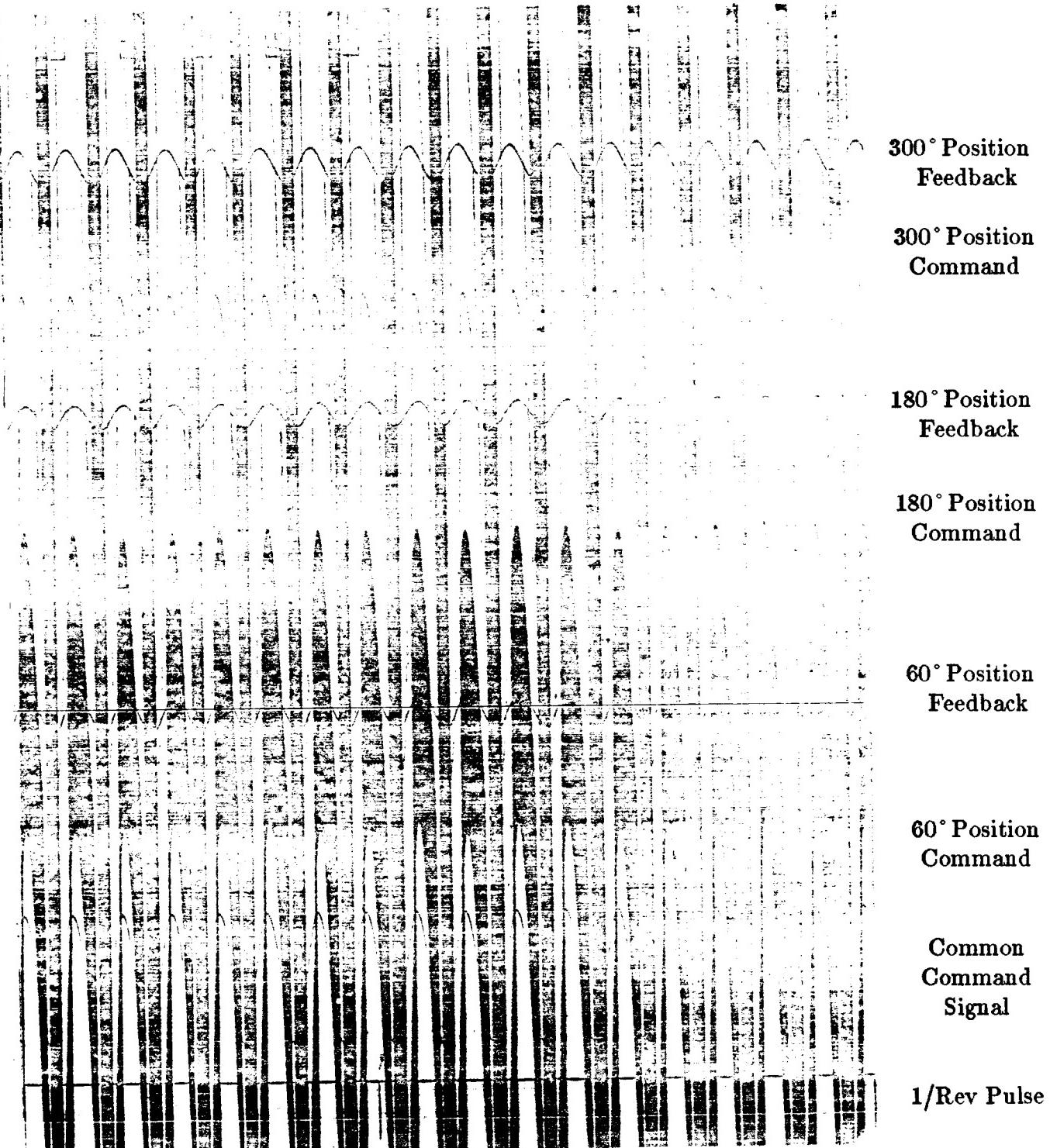


4.5 Volts Half Peak-To-Peak Input at 36.6 Hz.

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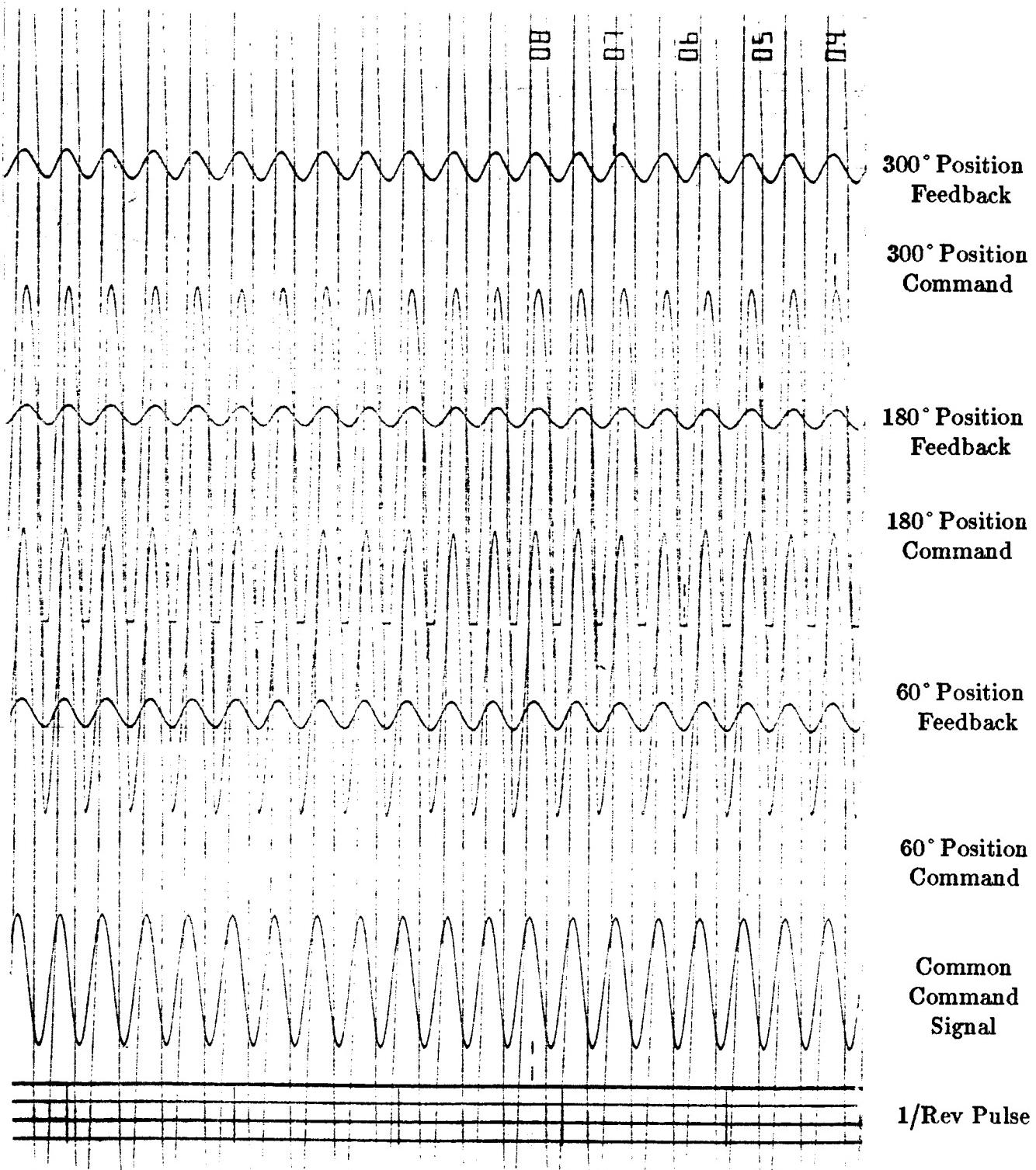


4.5 Volts Half Peak-To-Peak Input at 45.8 Hz.

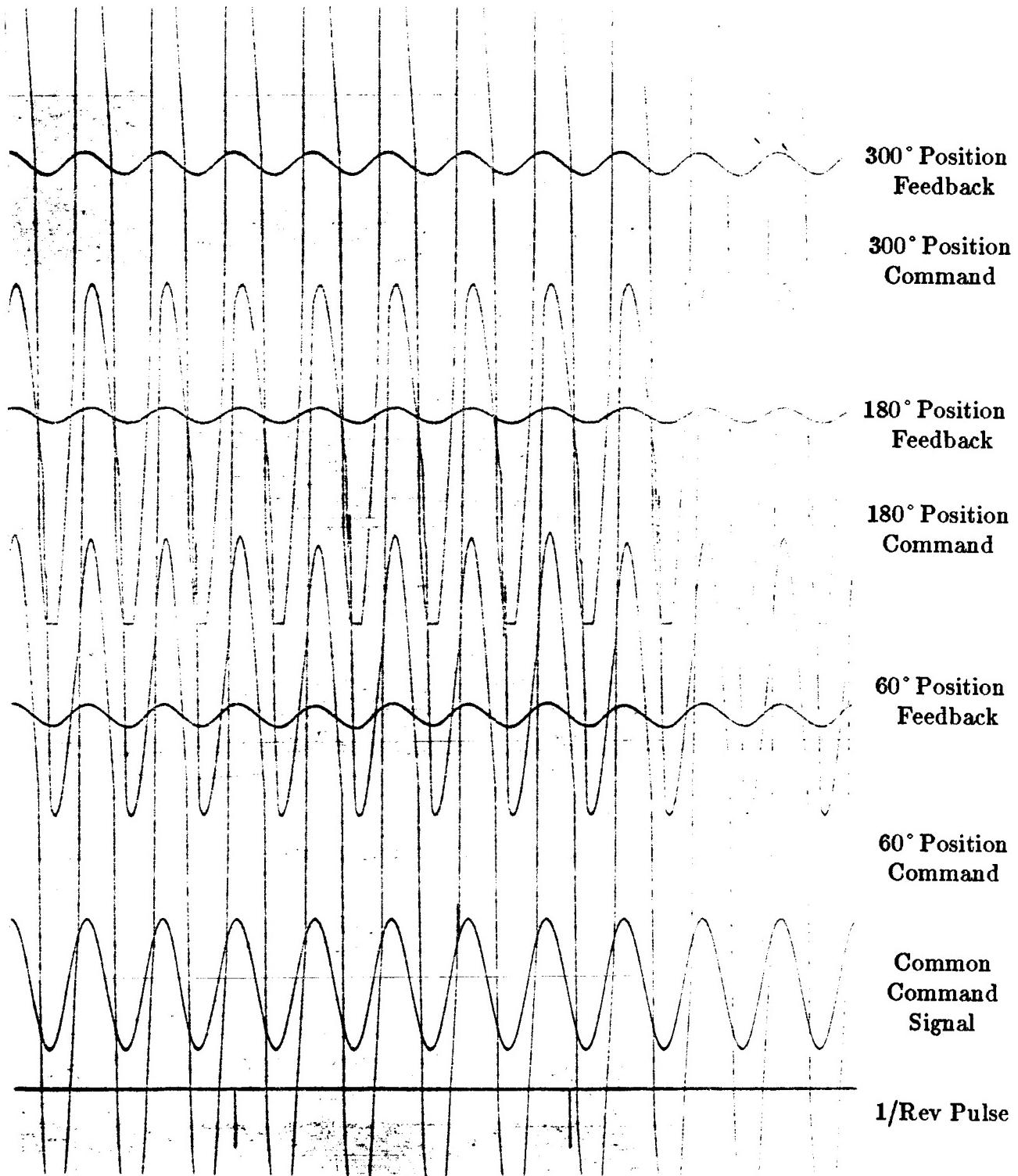


4.5 Volts Half Peak-To-Peak Input at 55.0 Hz.

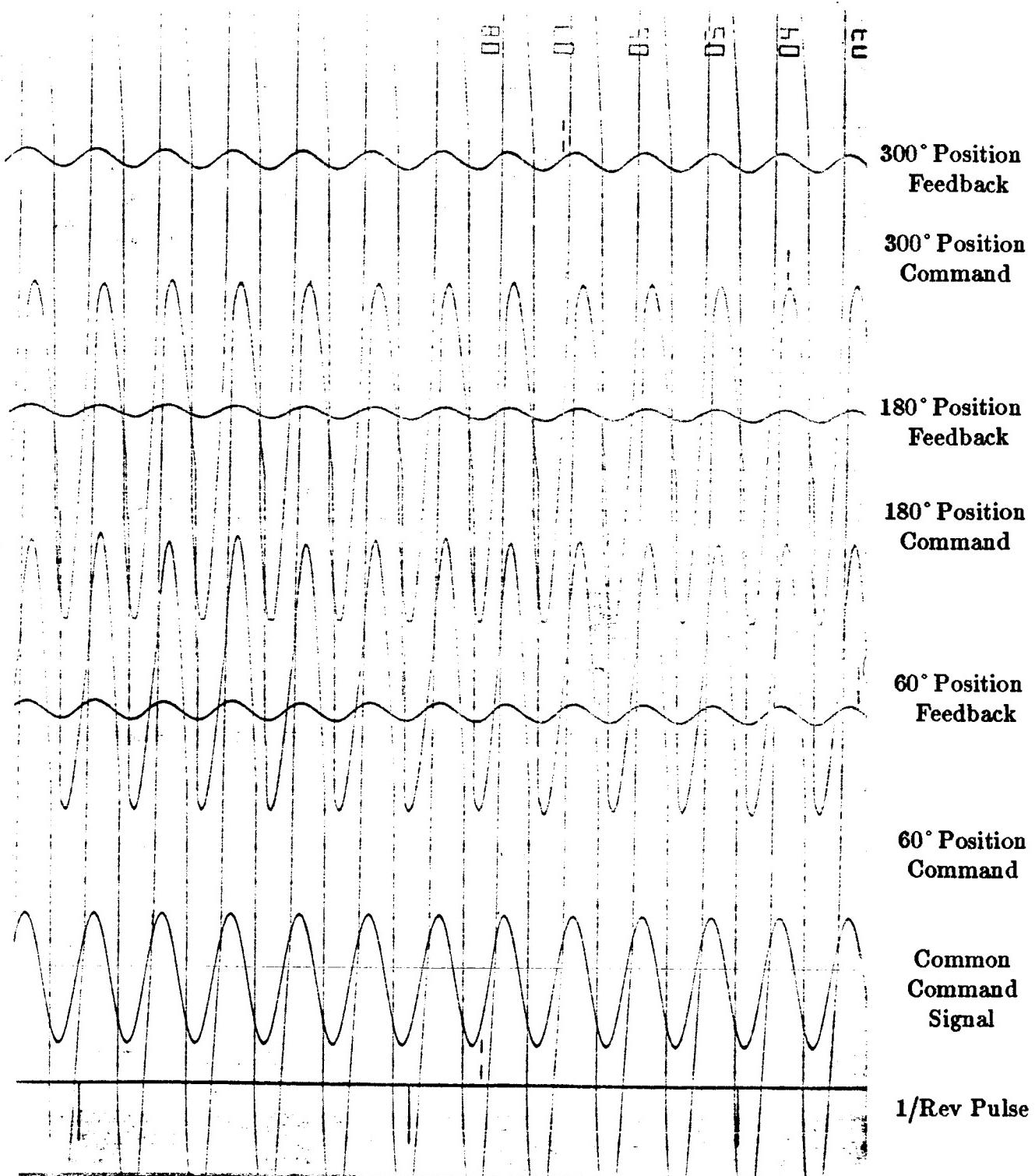
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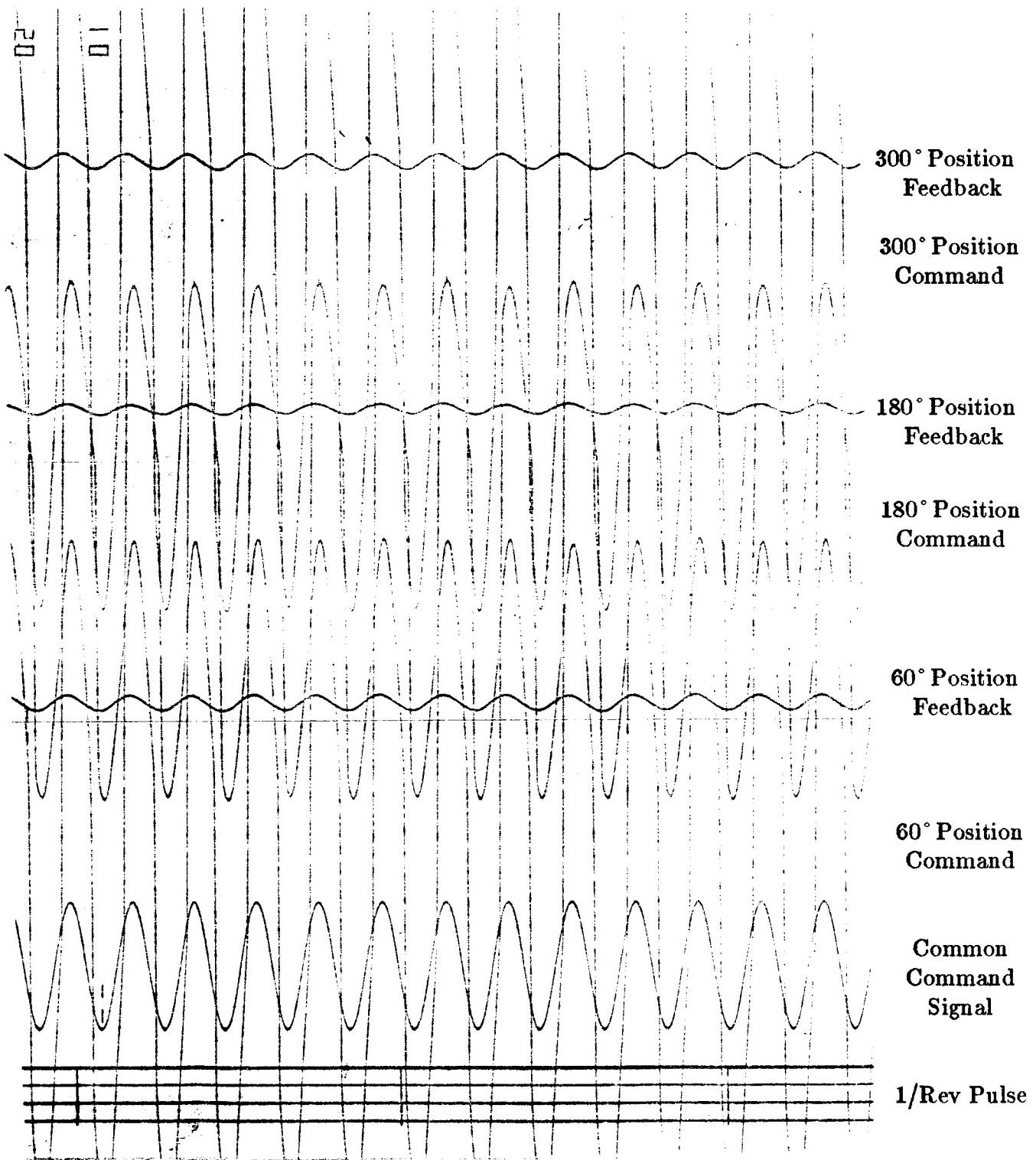
4.5 Volts Half Peak-To-Peak Input at 64.2 Hz.



4.5 Volts Half Peak-To-Peak Input at 73.3 Hz.

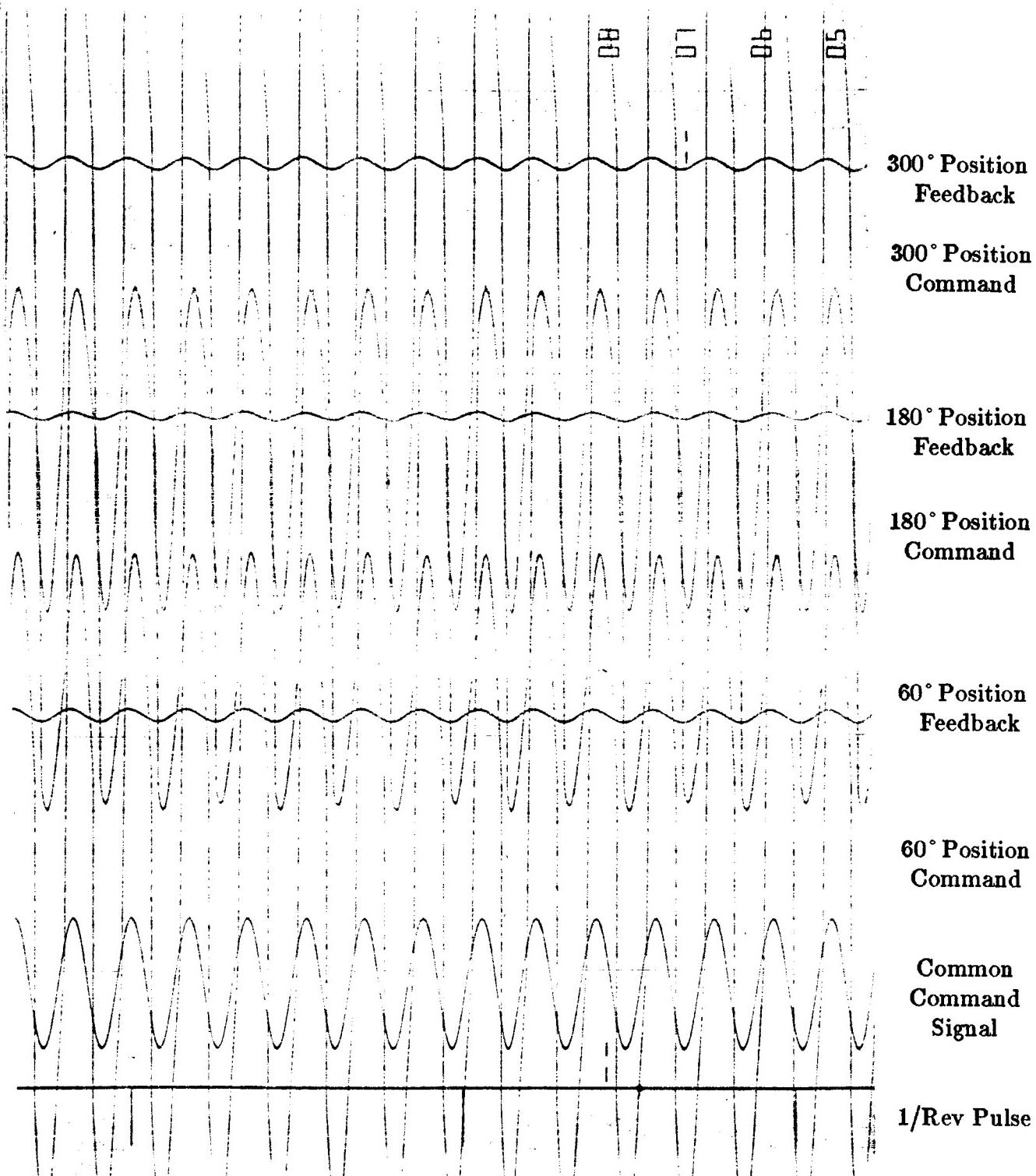


4.5 Volts Half Peak-To-Peak Input at 82.5 Hz.



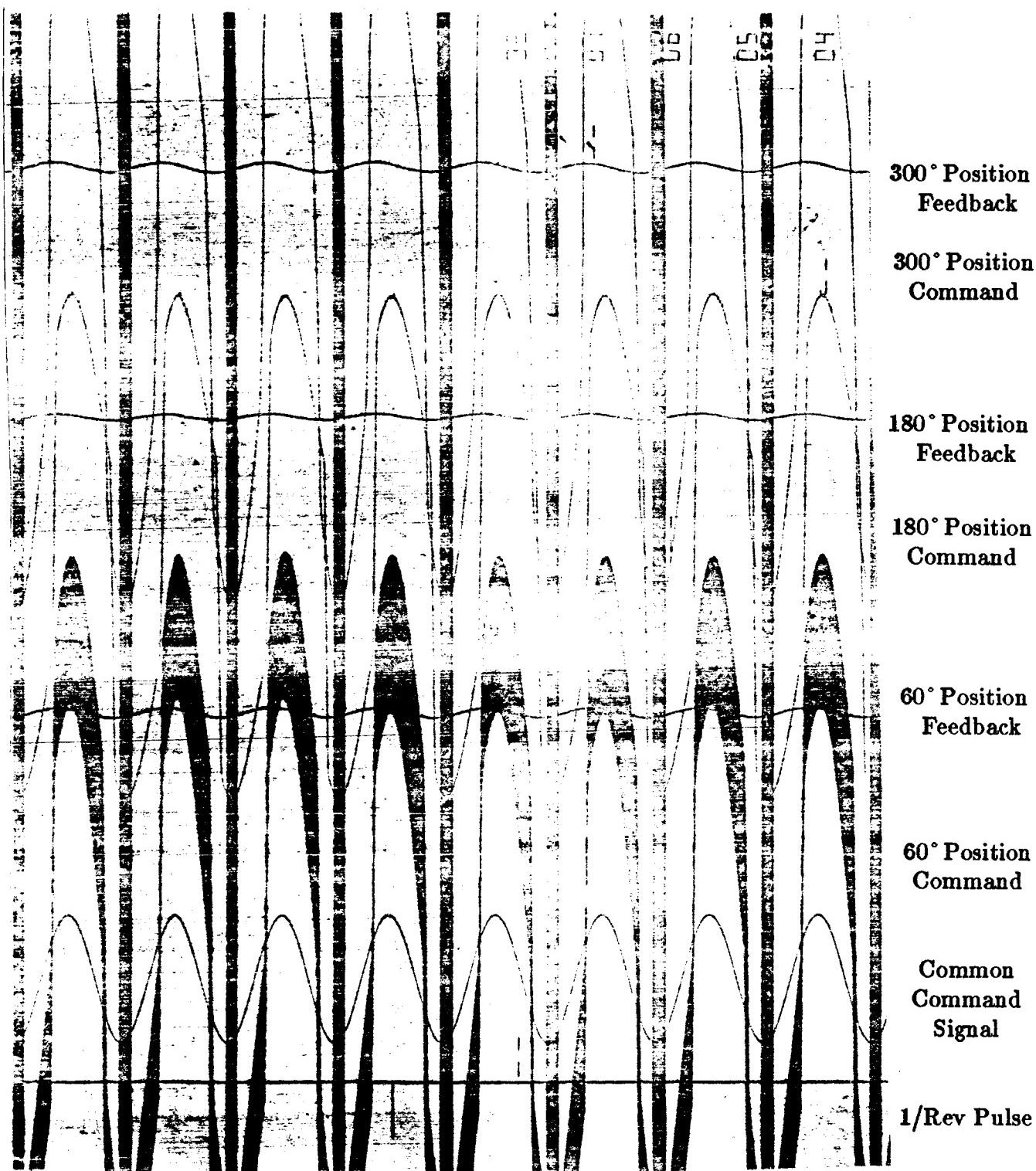
4.5 Volts Half Peak-To-Peak Input at 91.6 Hz.

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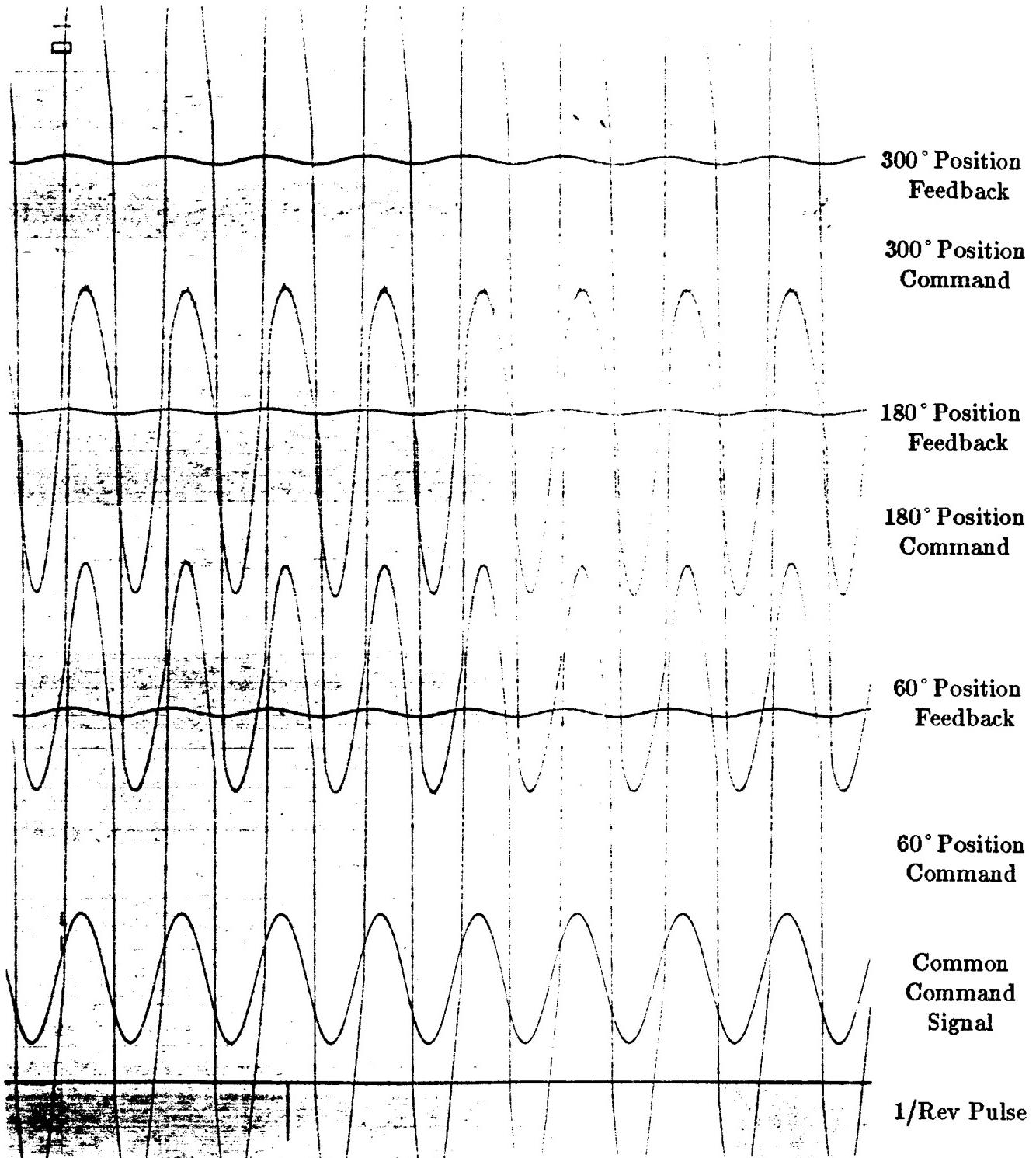
4.5 Volts Half Peak-To-Peak Input at 100.8 Hz.

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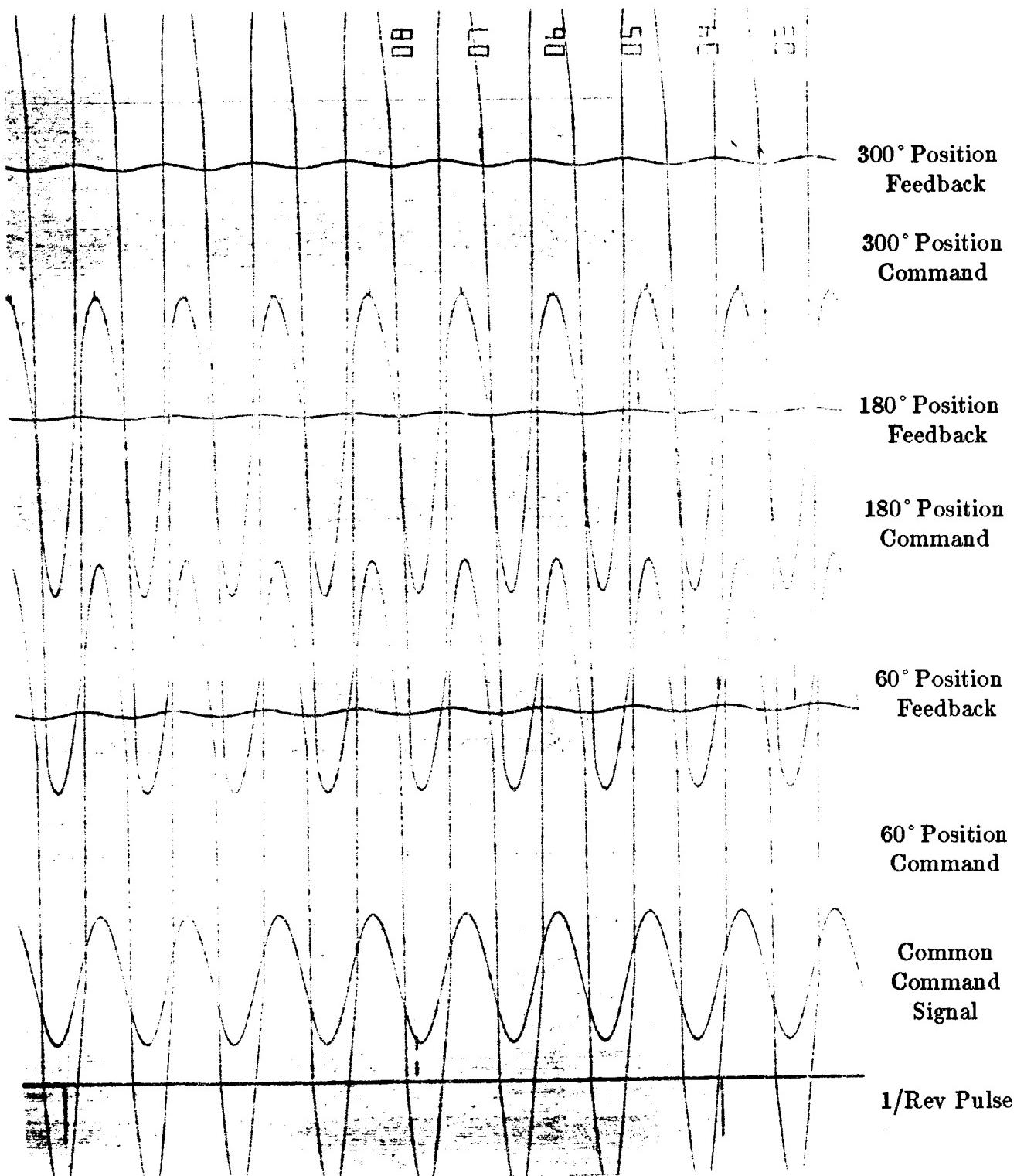


4.5 Volts Half Peak-To-Peak Input at 110.0 Hz.

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4.5 Volts Half Peak-To-Peak Input at 119.2 Hz.



4.5 Volts Half Peak-To-Peak Input at 128.3 Hz.

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Table B5

Summary of actuator frequency response data for  
4.5 volts half peak-to-peak command input.

Frequency Per/Rev	Frequency In Hz	Magnitude In Counts	Relative Magnitude	Magnitude In ± Degs	Phase In Degs
	1.0	674	1.00	1.50	0
1.0/Rev	18.3	728	1.08	1.62	5
1.5/Rev	27.5	761	1.12	1.68	10
2.0/Rev	36.6	818	1.21	1.82	50
2.5/Rev	45.8	830	1.23	1.85	70
3.0/Rev	55.0	663	0.98	1.47	95
3.5/Rev	64.2	501	0.74	1.11	145
4.0/Rev	73.3	414	0.61	0.92	175
4.5/Rev	82.5	361	0.53	0.80	180
5.0/Rev	91.6	317	0.47	0.71	185
5.5/Rev	100.8	275	0.40	0.60	200
6.0/Rev	110.0	227	0.33	0.50	205
6.5/Rev	119.2	214	0.31	0.47	210
7.0/Rev	128.3	193	0.28	0.42	225

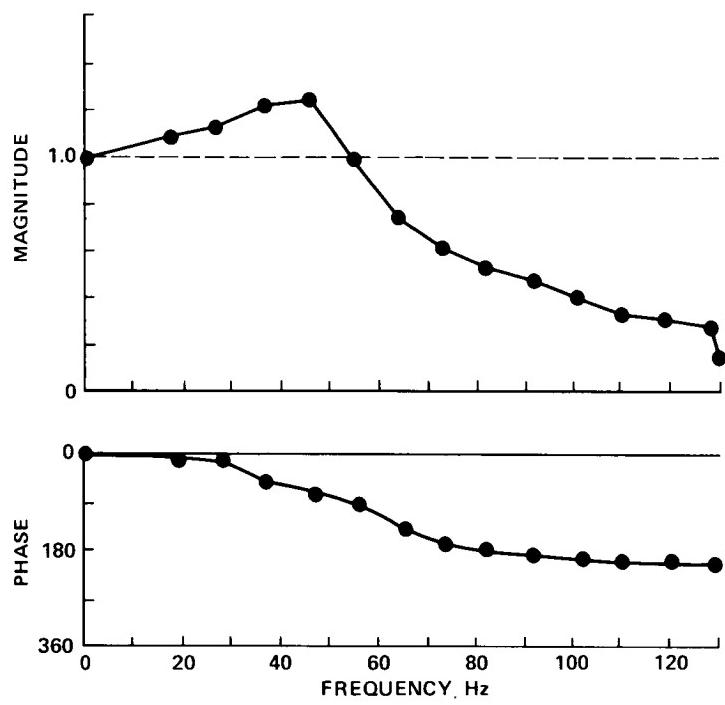
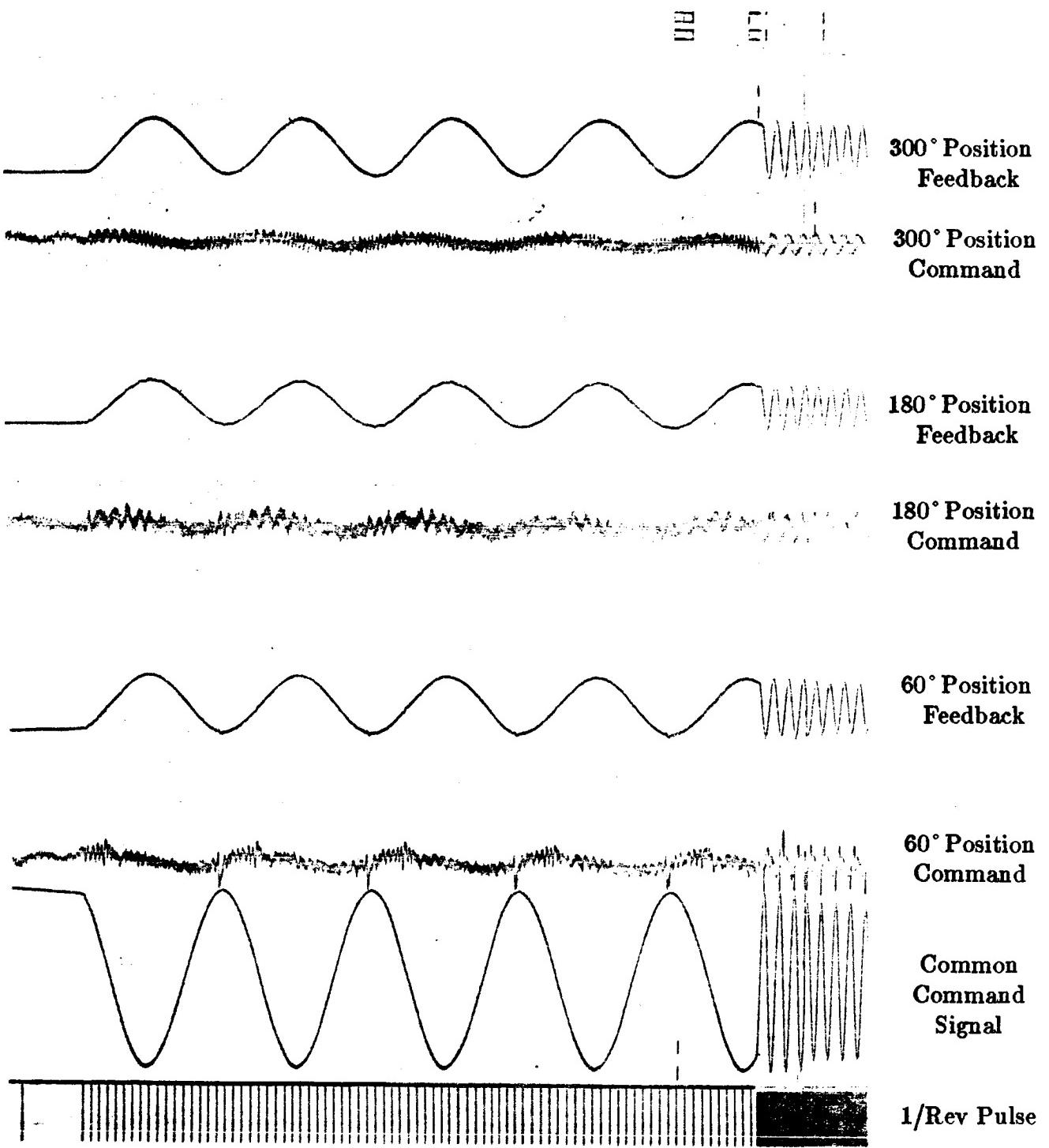
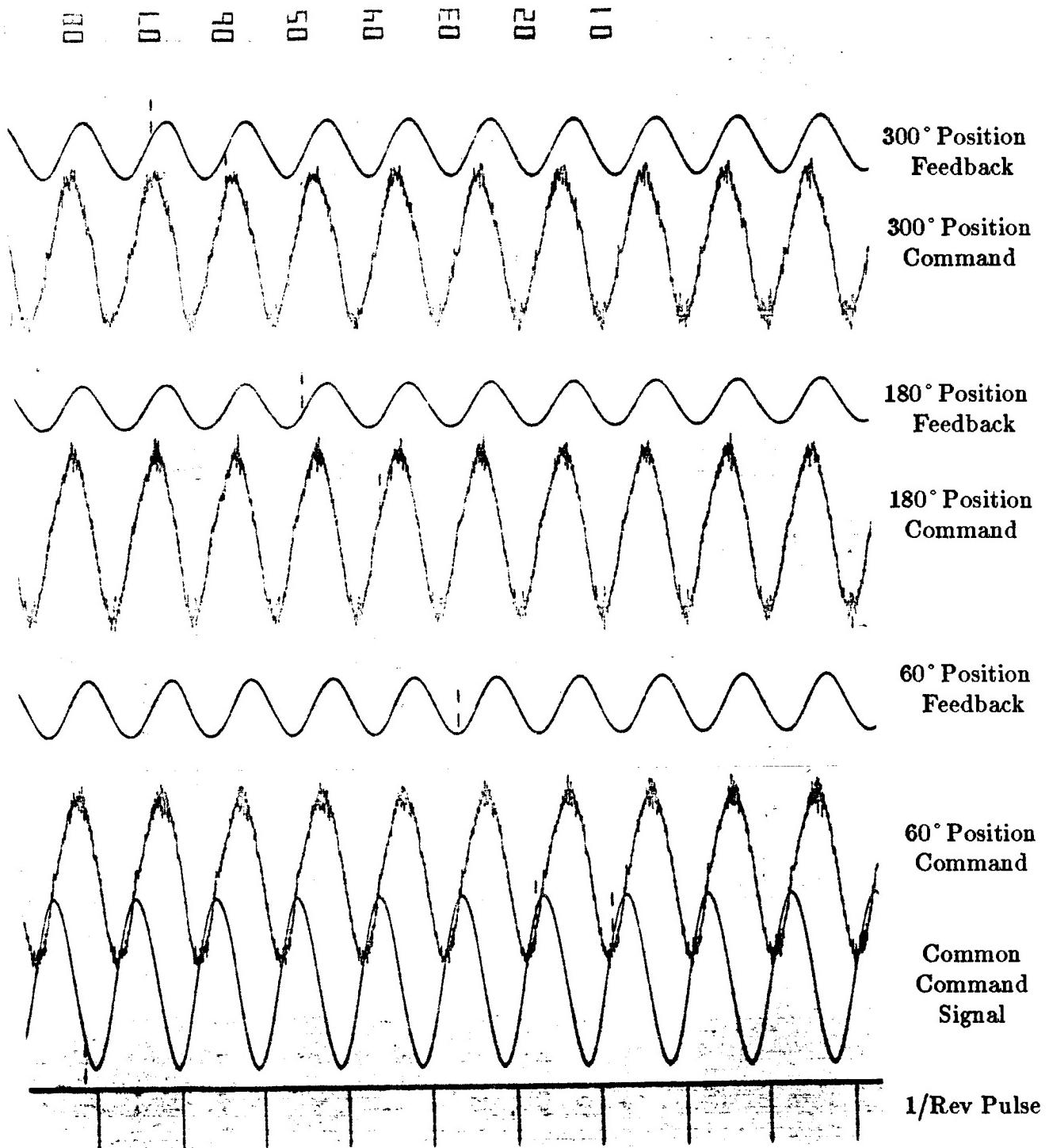


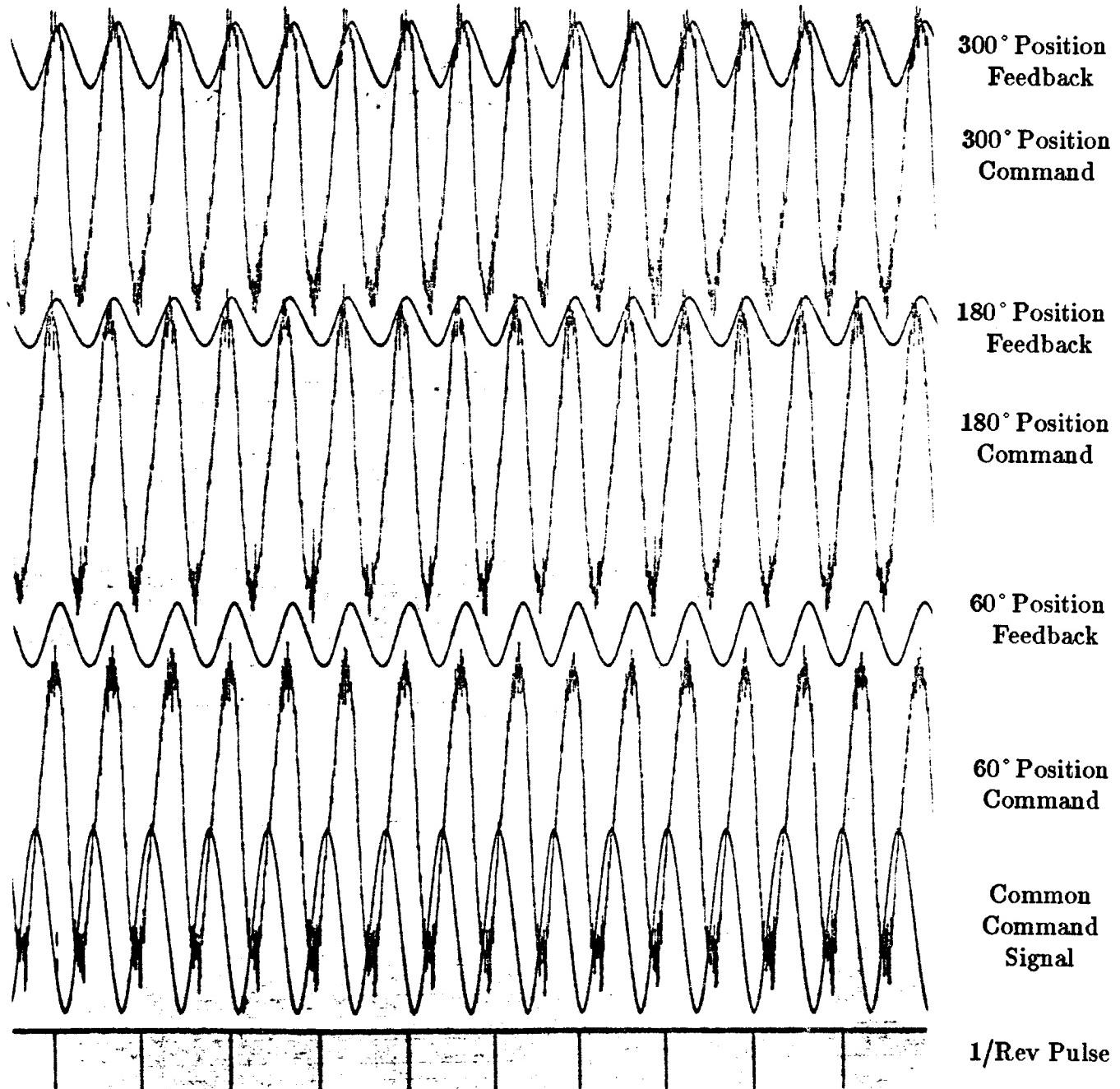
Figure B4  
Frequency Response at  $\pm$  4.5 Volts Excitation.



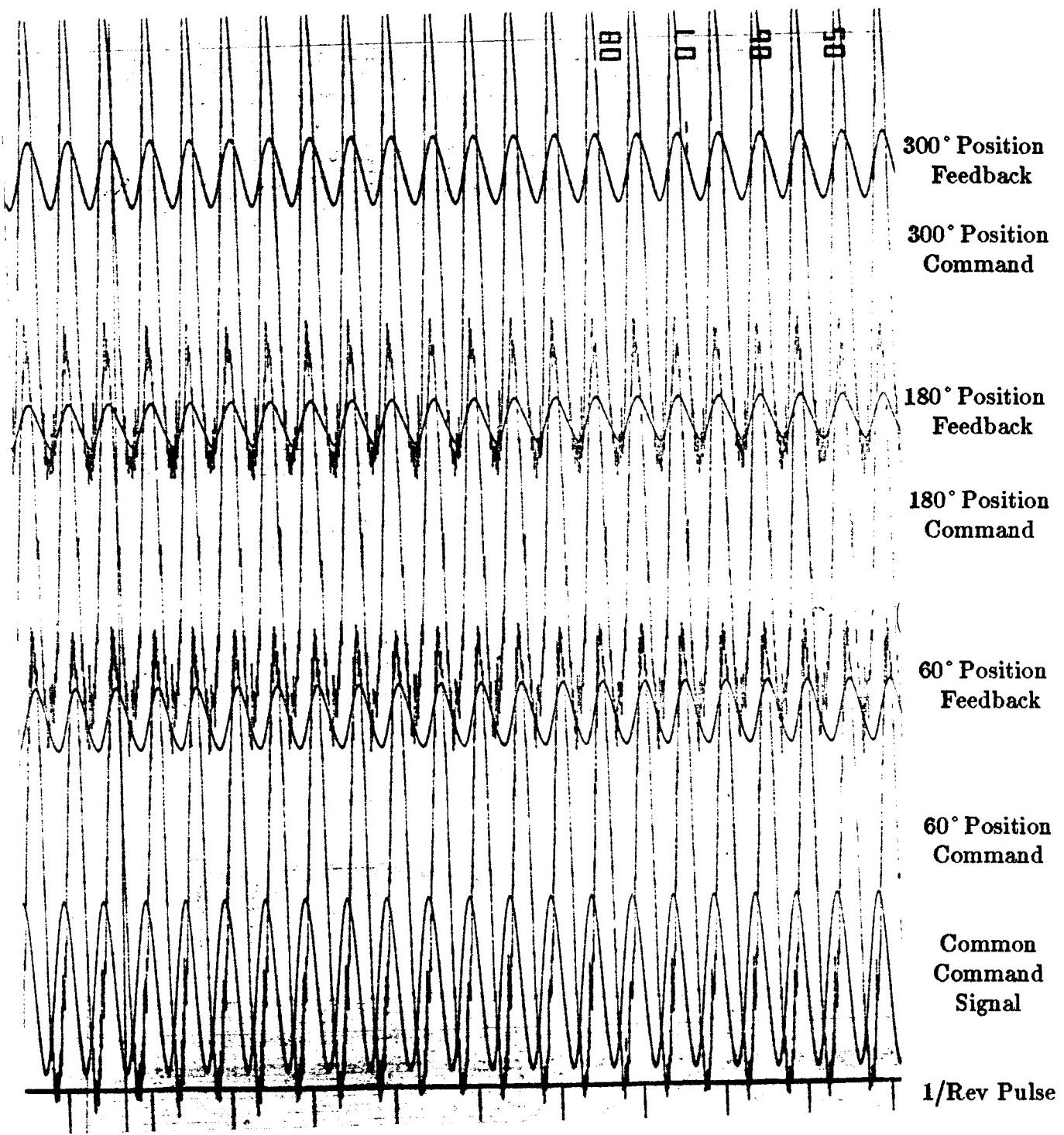
6.0 Volts Half Peak-To-Peak Input at 1.0 Hz.



6.0 Volts Half Peak-To-Peak Input at 18.3 Hz.

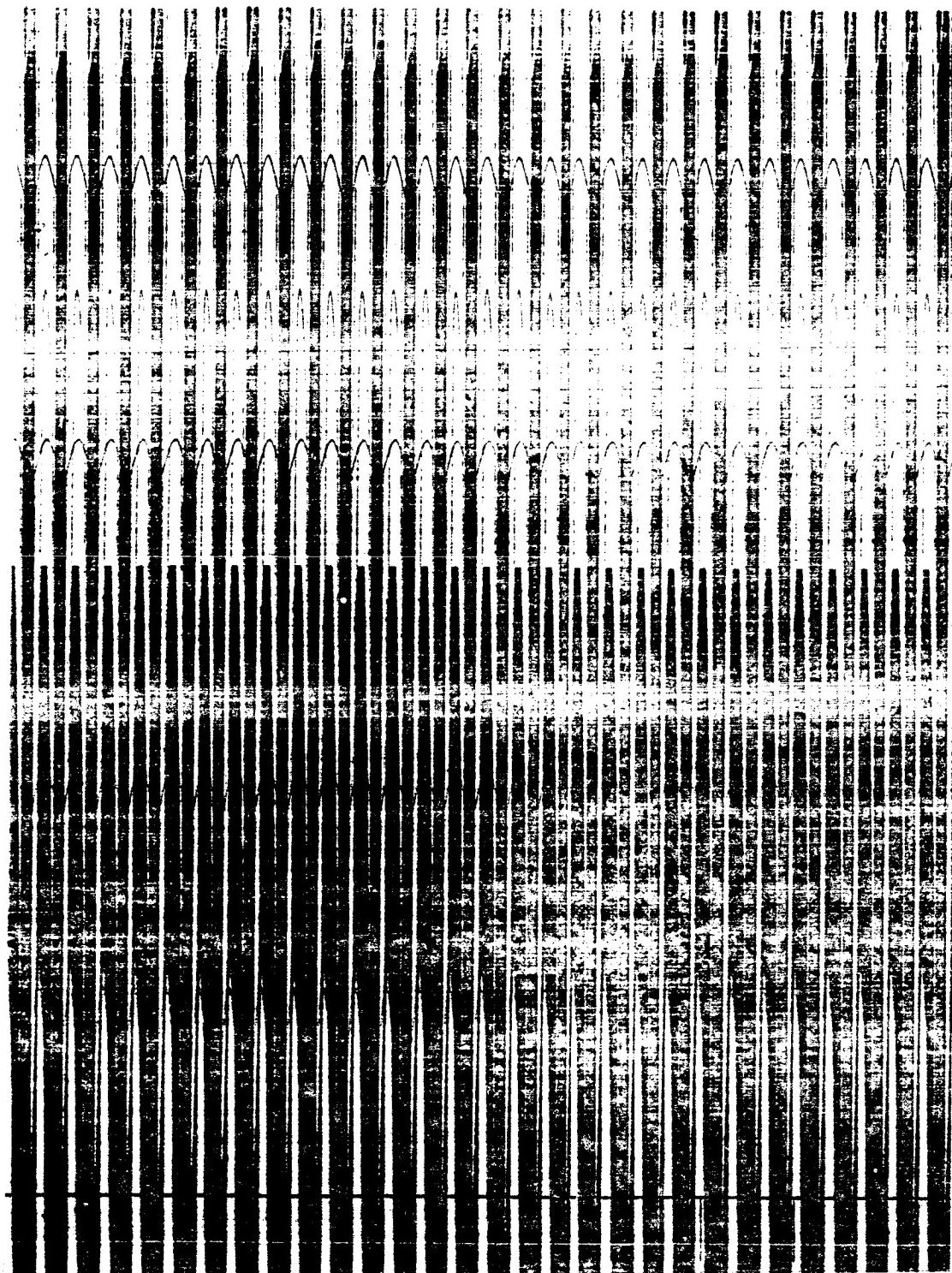


6.0 Volts Half Peak-To-Peak Input at 27.5 Hz.

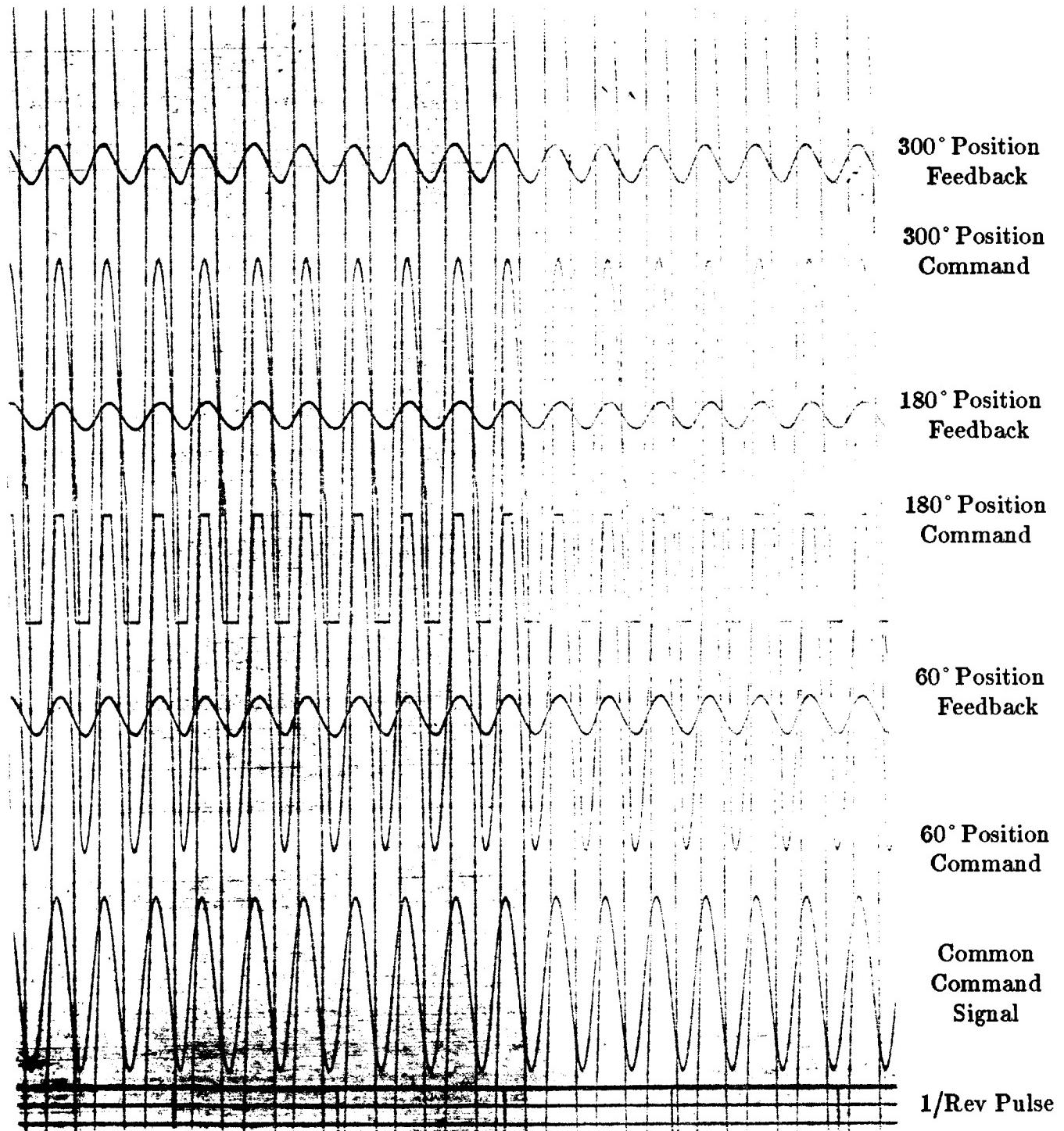


6.0 Volts Half Peak-To-Peak Input at 36.6 Hz.

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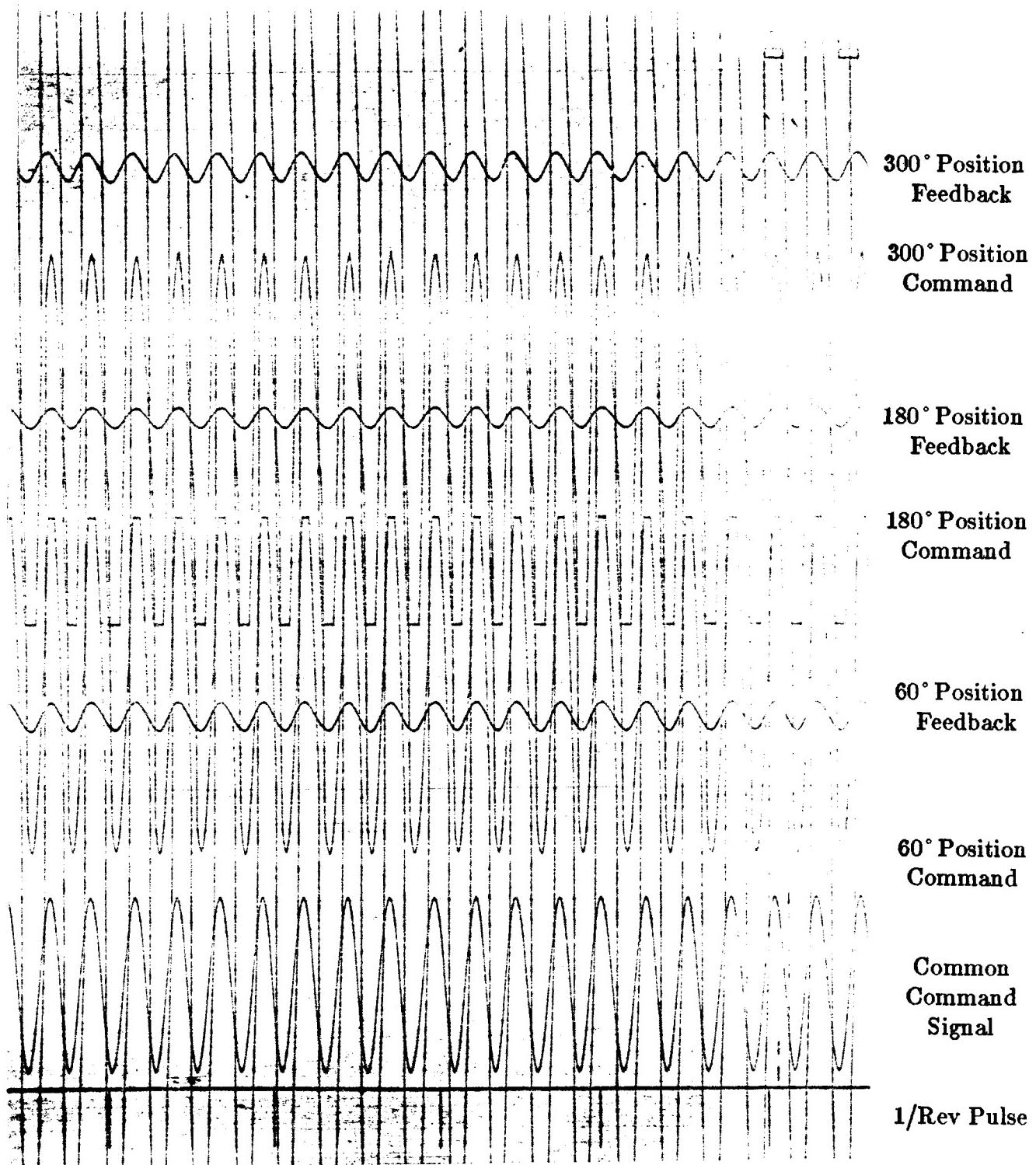


**6.0 Volts Half Peak-To-Peak Input at 45.8 Hz.**

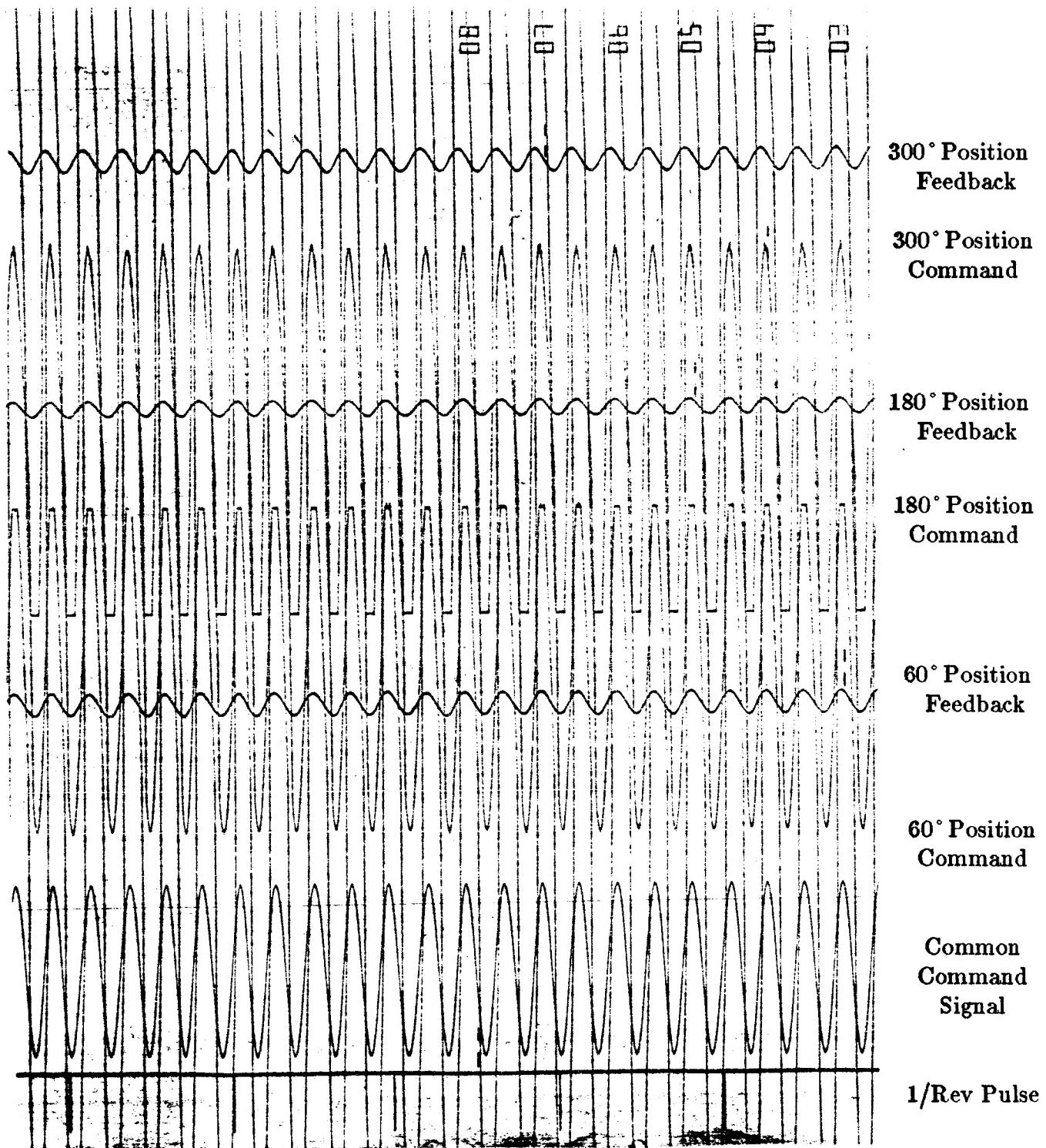


6.0 Volts Half Peak-To-Peak Input at 55.0 Hz.

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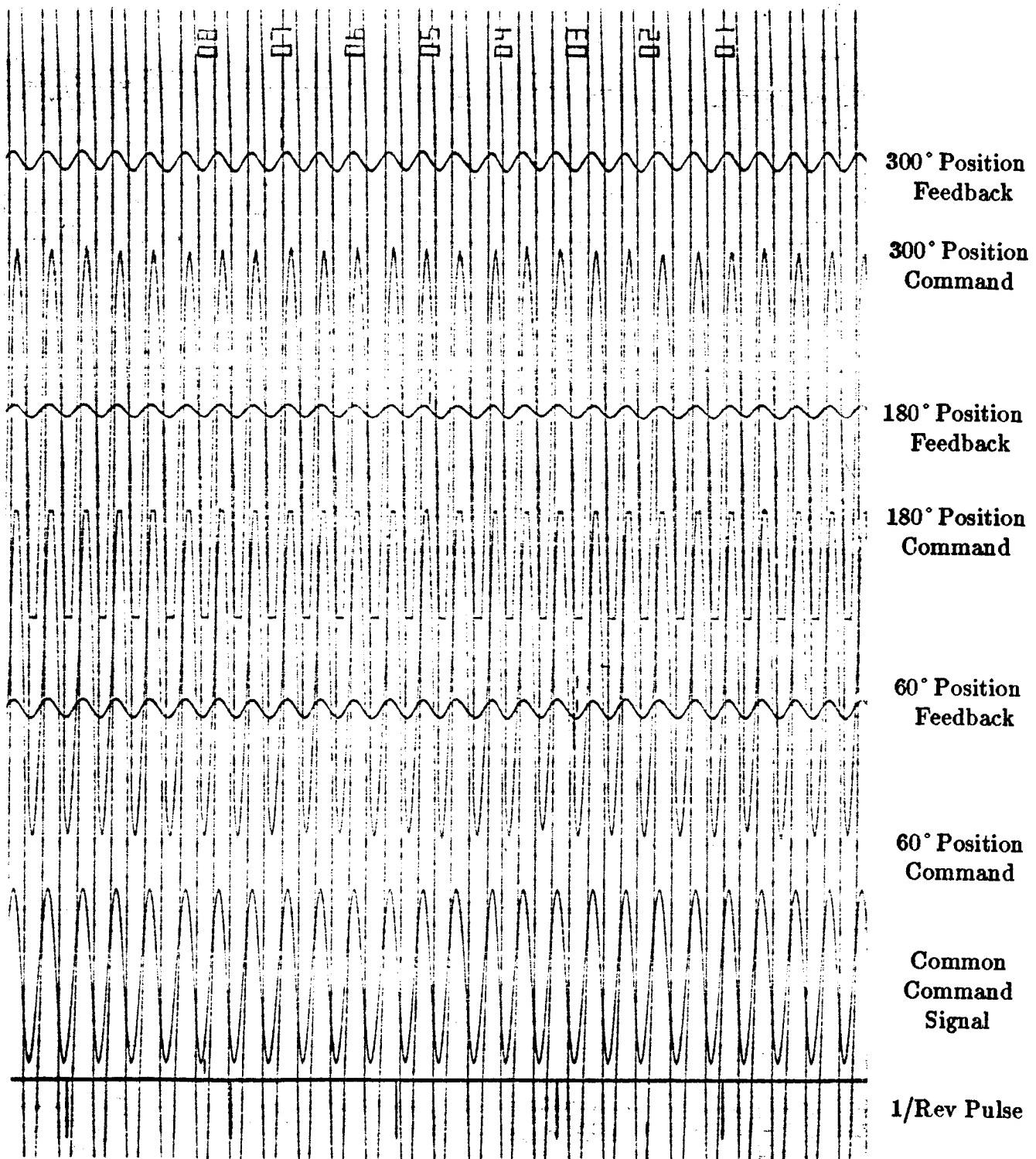


6.0 Volts Half Peak-To-Peak Input at 64.2 Hz.

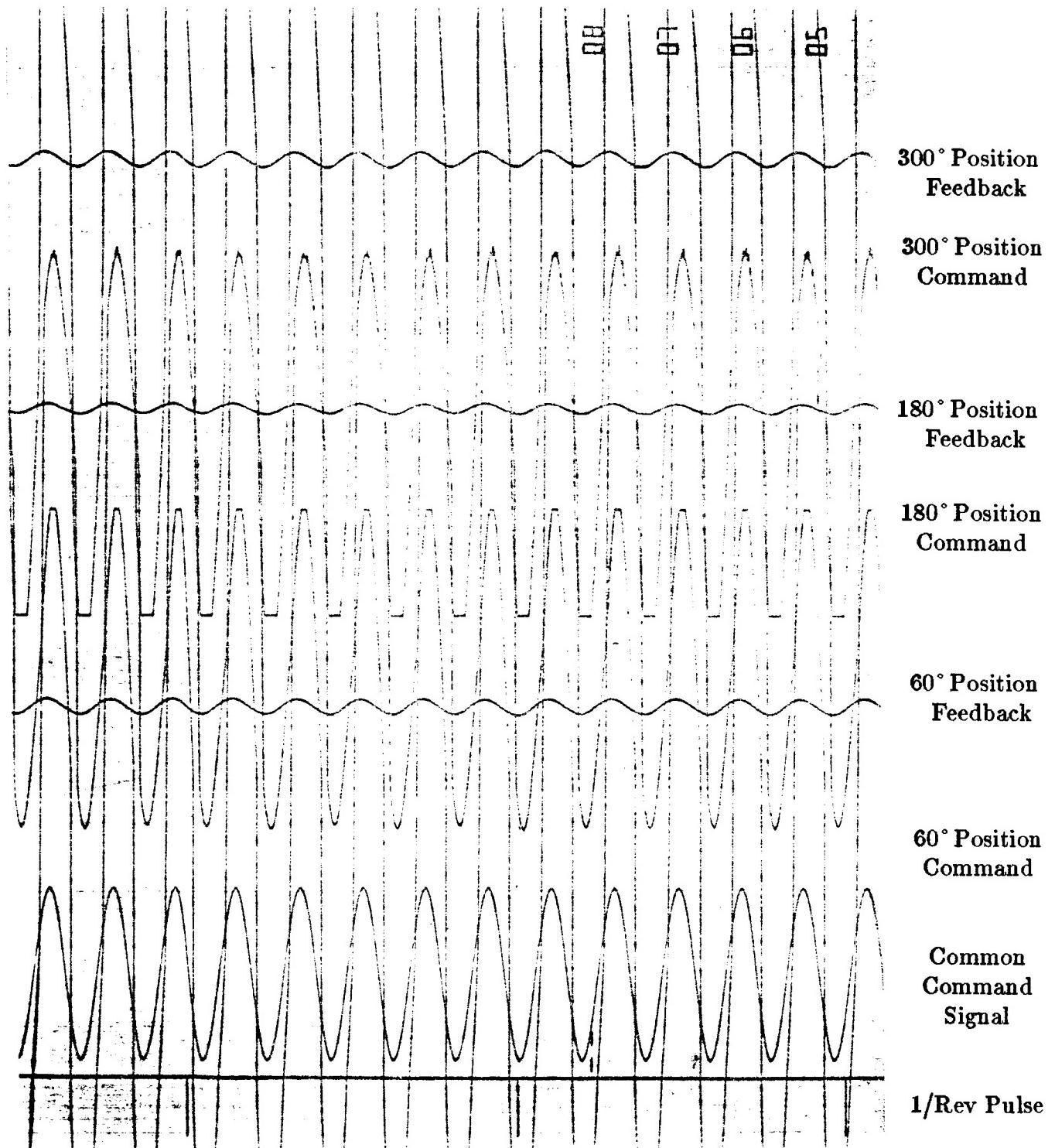


6.0 Volts Half Peak-To-Peak Input at 73.3 Hz.

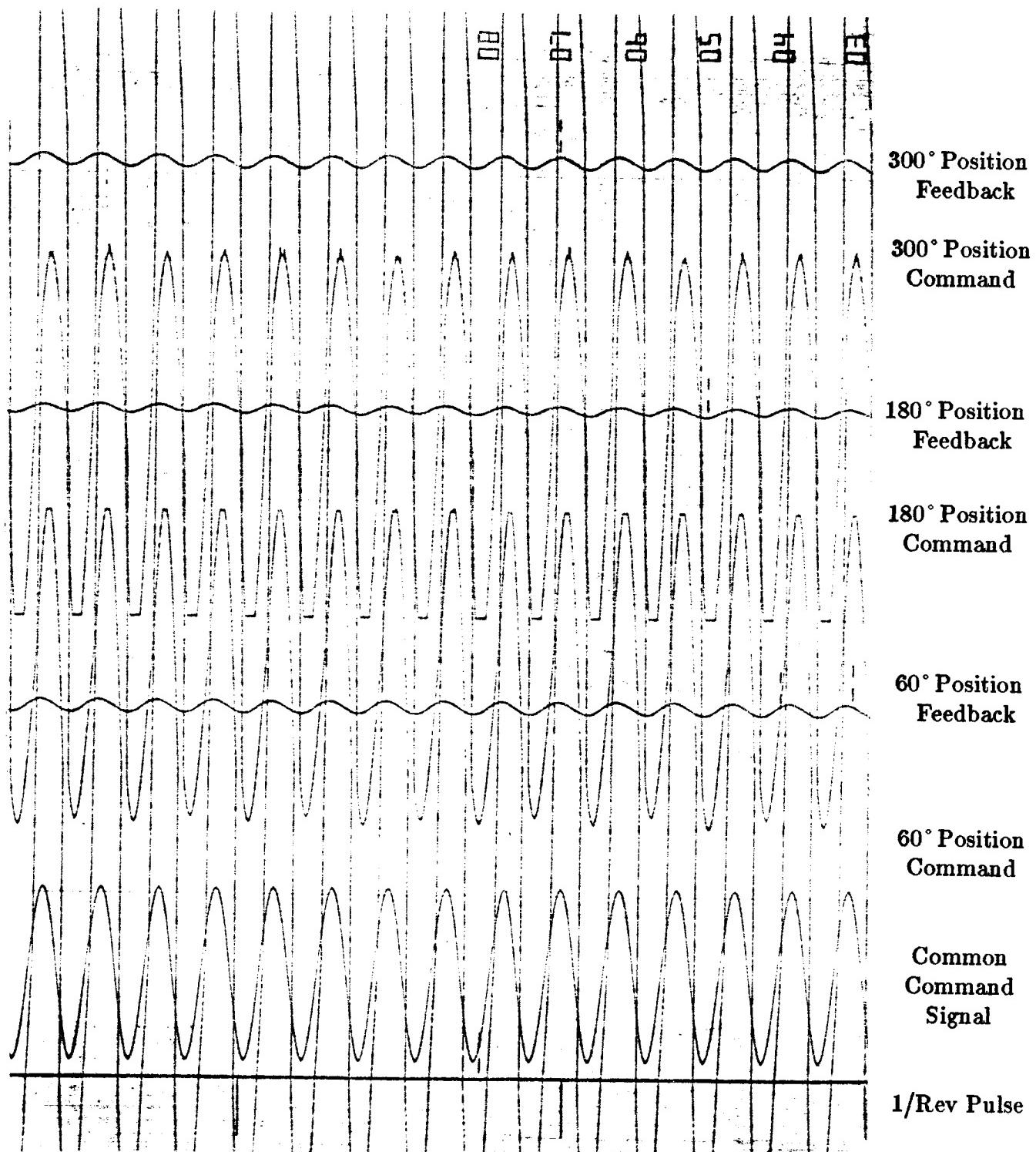
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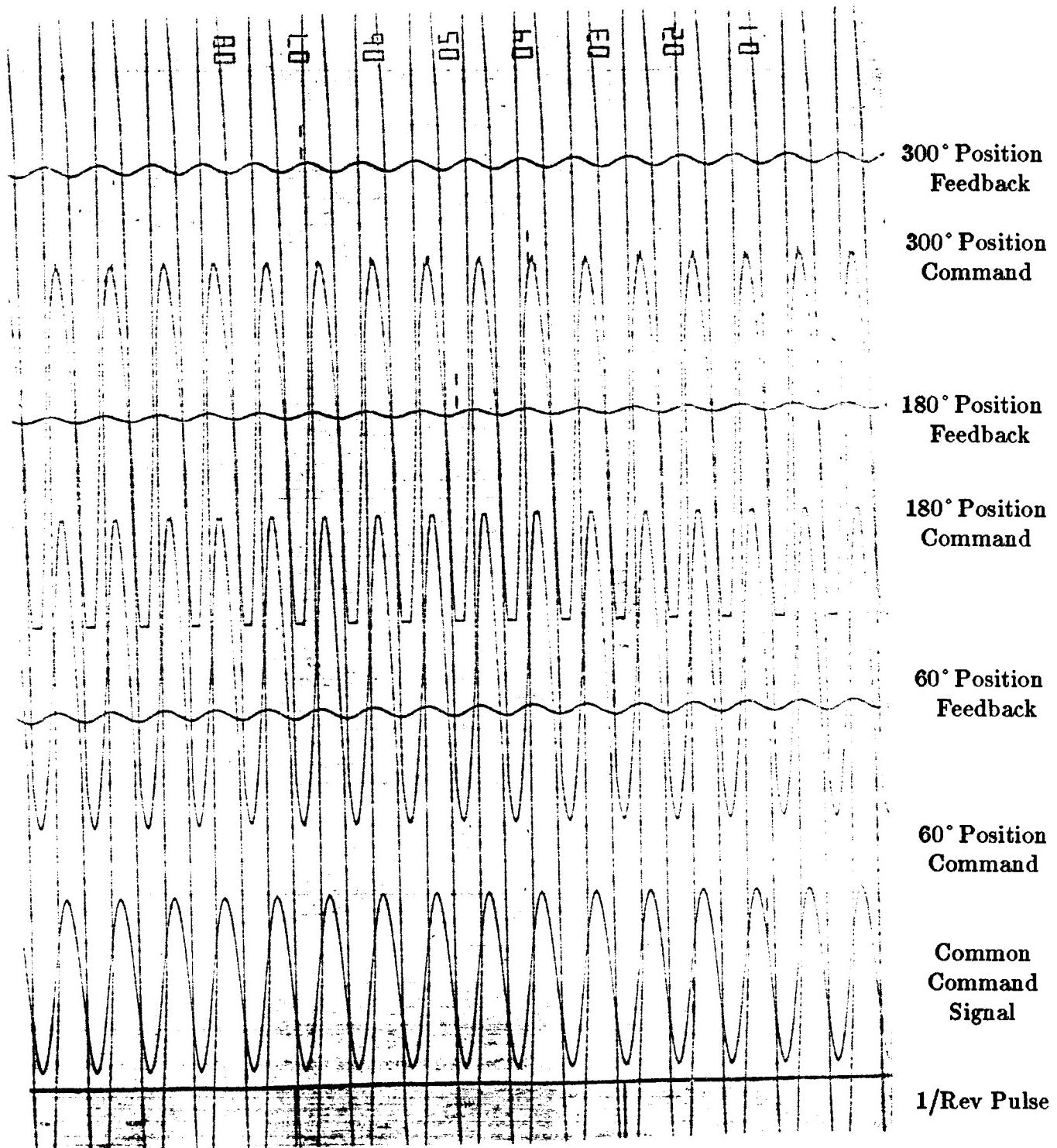
6.0 Volts Half Peak-To-Peak Input at 82.5 Hz.



6.0 Volts Half Peak-To-Peak Input at 91.6 Hz.

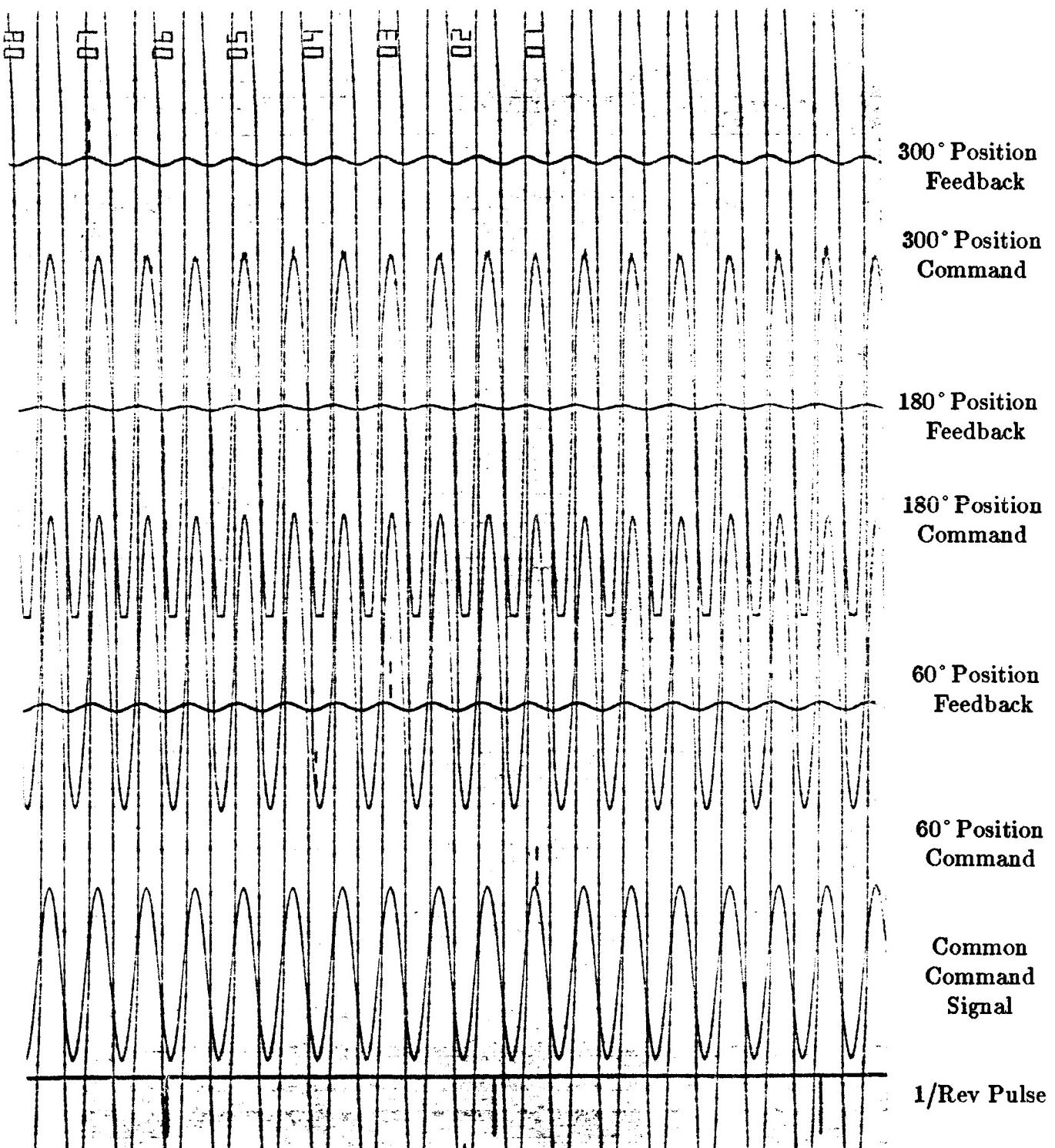


6.0 Volts Half Peak-To-Peak Input at 100.8 Hz.

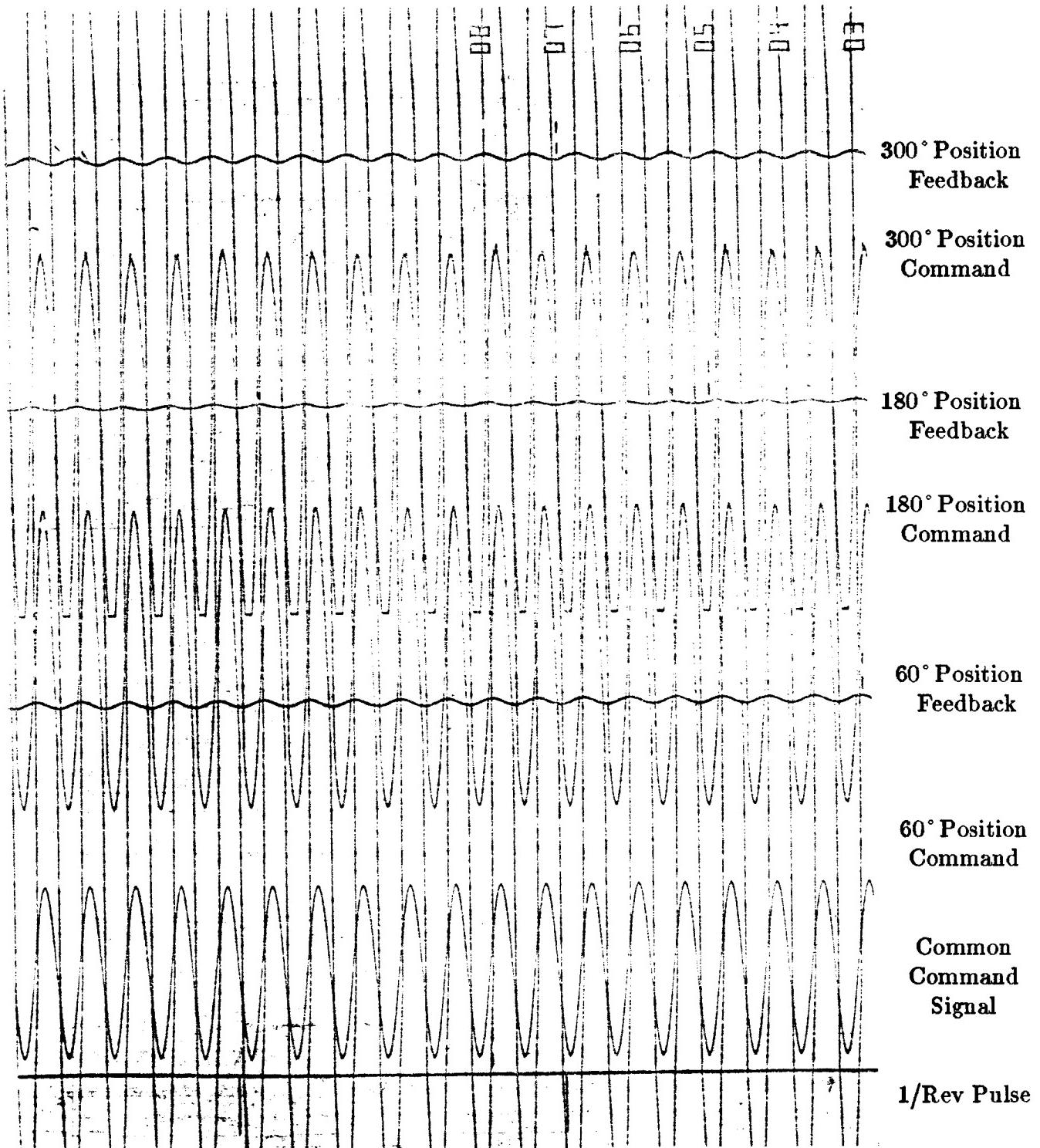


6.0 Volts Half Peak-To-Peak Input at 110.0 Hz.

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6.0 Volts Half Peak-To-Peak Input at 119.2 Hz.



6.0 Volts Half Peak-To-Peak Input at 128.3 Hz.

Table B6

Summary of actuator frequency response data for  
6.0 volts half peak-to-peak command input.

Frequency Per/Rev	Frequency In Hz	Magnitude In Counts	Relative Magnitude	Magnitude In ± Degs	Phase In Degs
	1.0	933	1.00	2.0	0
1.0/Rev	18.3	937	1.00	2.0	10
1.5/Rev	27.5	990	1.06	2.12	30
2.0/Rev	36.6	1108	1.18	2.36	50
2.5/Rev	45.8	793	0.84	1.68	90
3.0/Rev	55.0	648	0.69	1.38	135
3.5/Rev	64.2	516	0.55	1.10	175
4.0/Rev	73.3	401	0.42	0.84	180
4.5/Rev	82.5	354	0.37	0.74	185
5.0/Rev	91.6	322	0.34	0.68	190
5.5/Rev	100.8	271	0.29	0.58	200
6.0/Rev	110.0	263	0.28	0.56	210
6.5/Rev	119.2	222	0.23	0.46	220
7.0/Rev	128.3	195	0.20	0.40	235

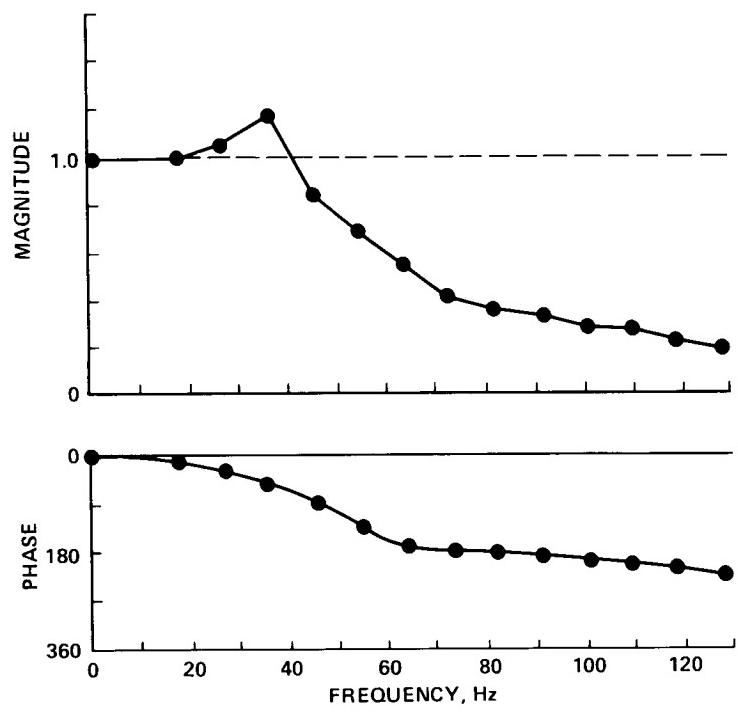
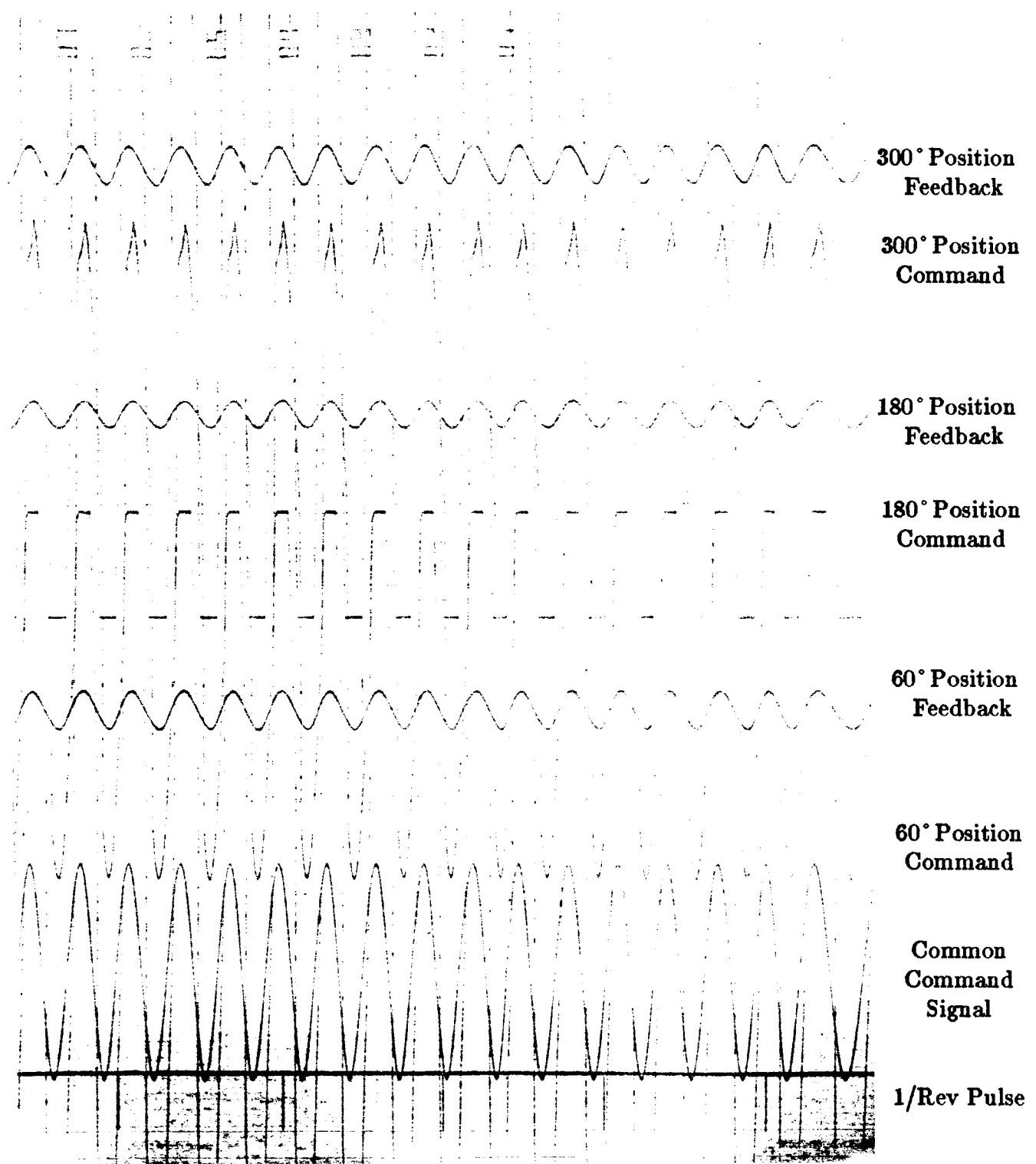
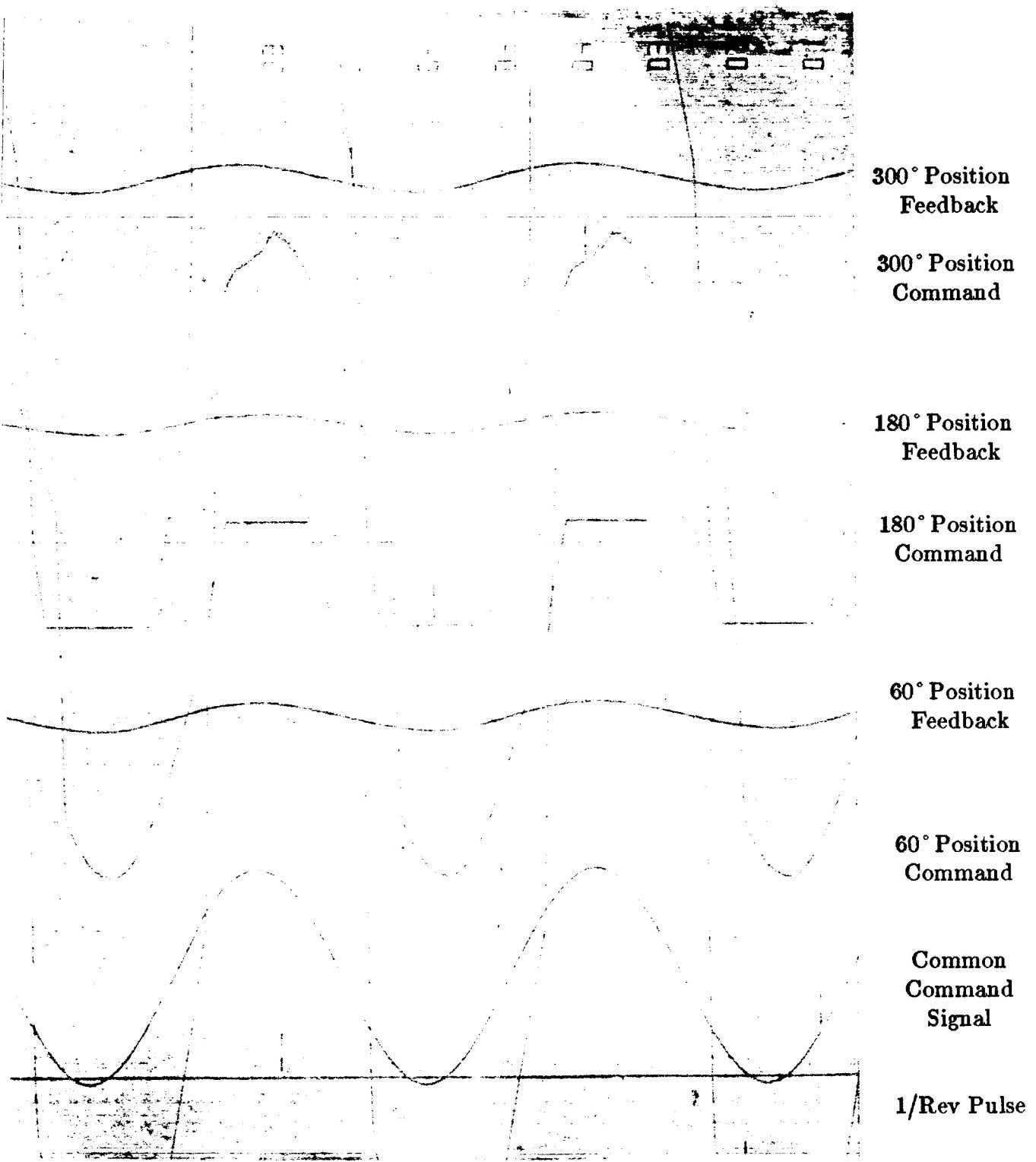


Figure B5

Frequency Response at  $\pm 6.0$  Volts Excitation.

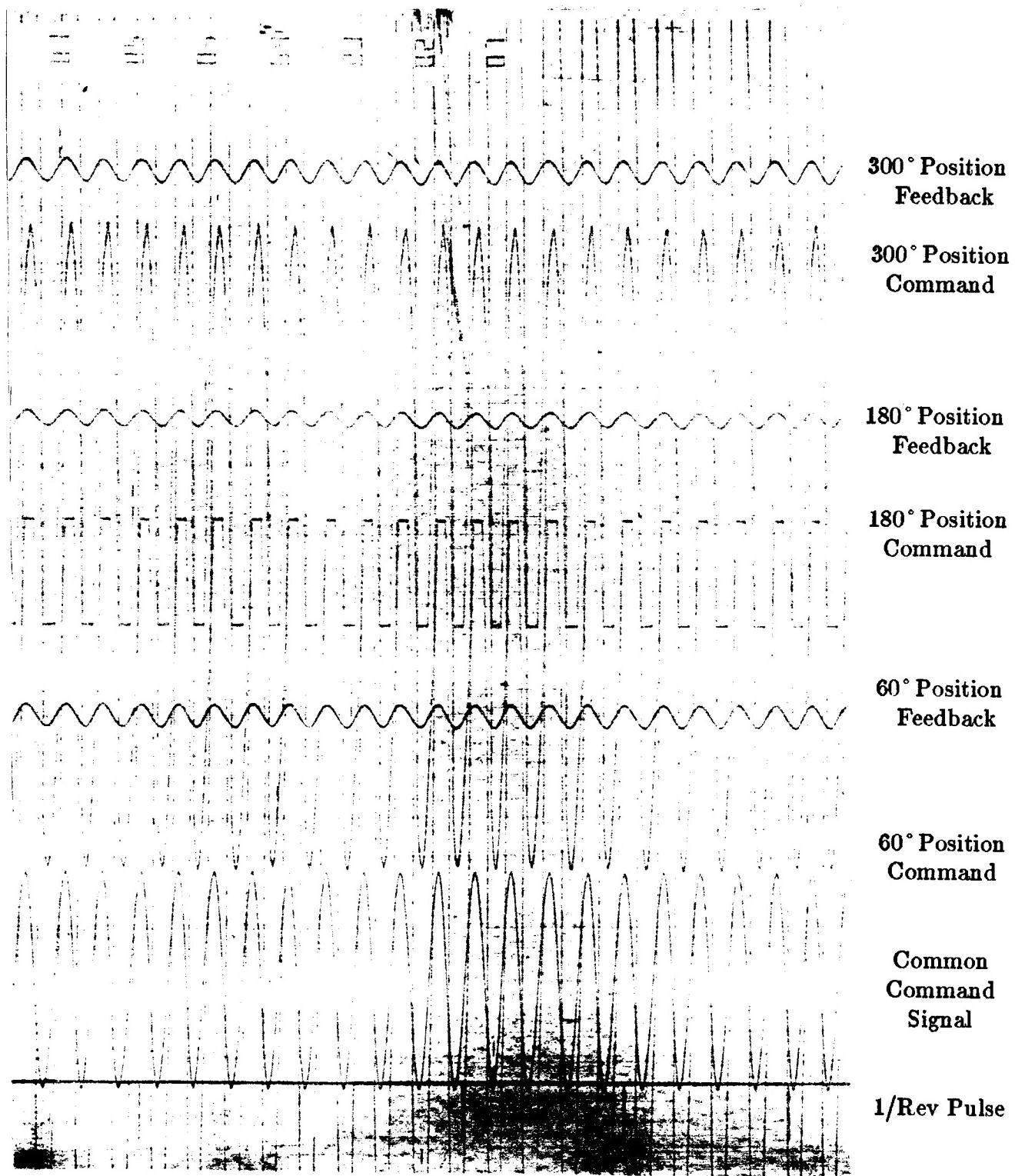


7.5 Volts Half Peak-To-Peak Input at 55.0 Hz.

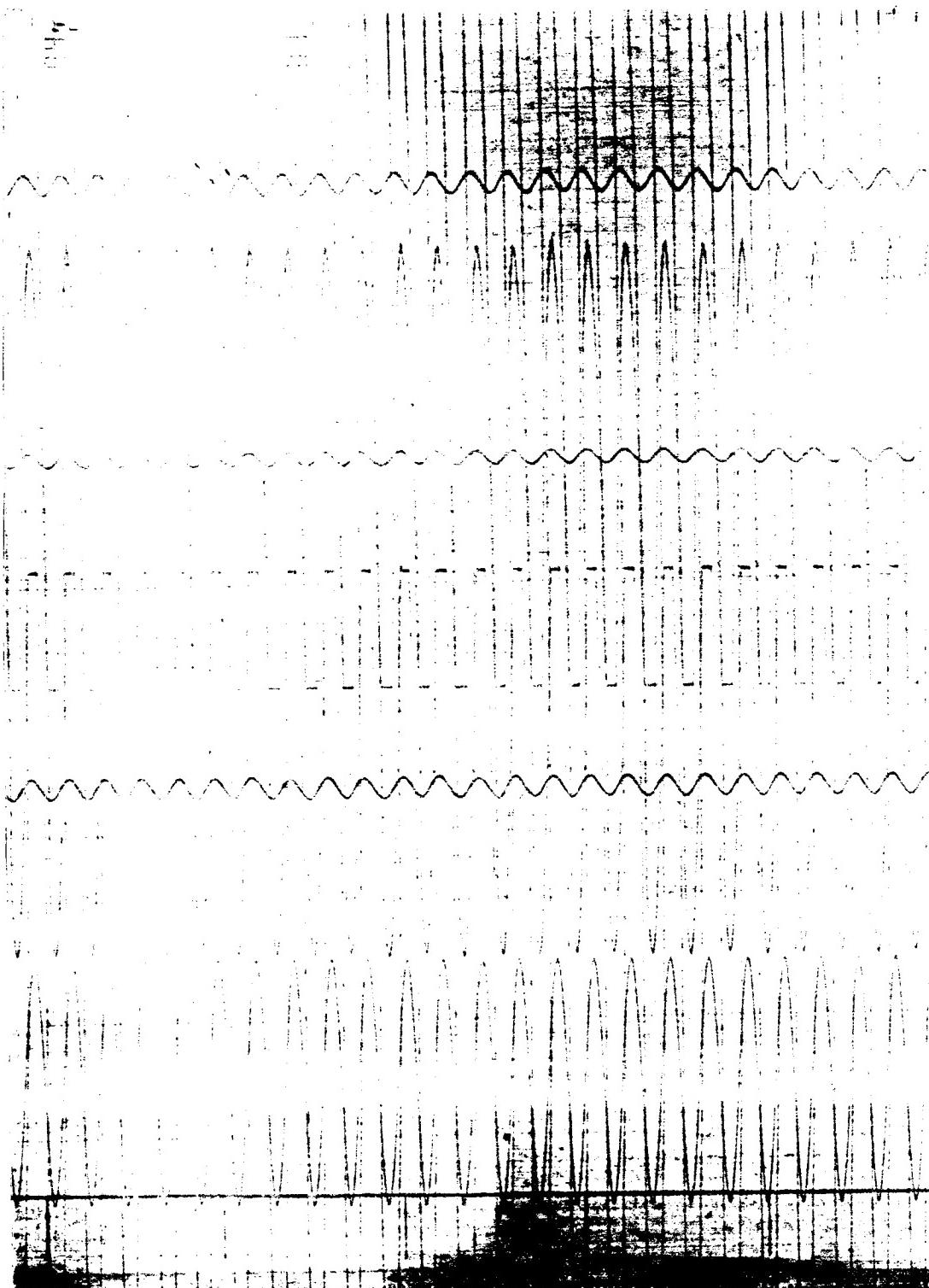


7.5 Volts Half Peak-To-Peak Input at 64.2 Hz.

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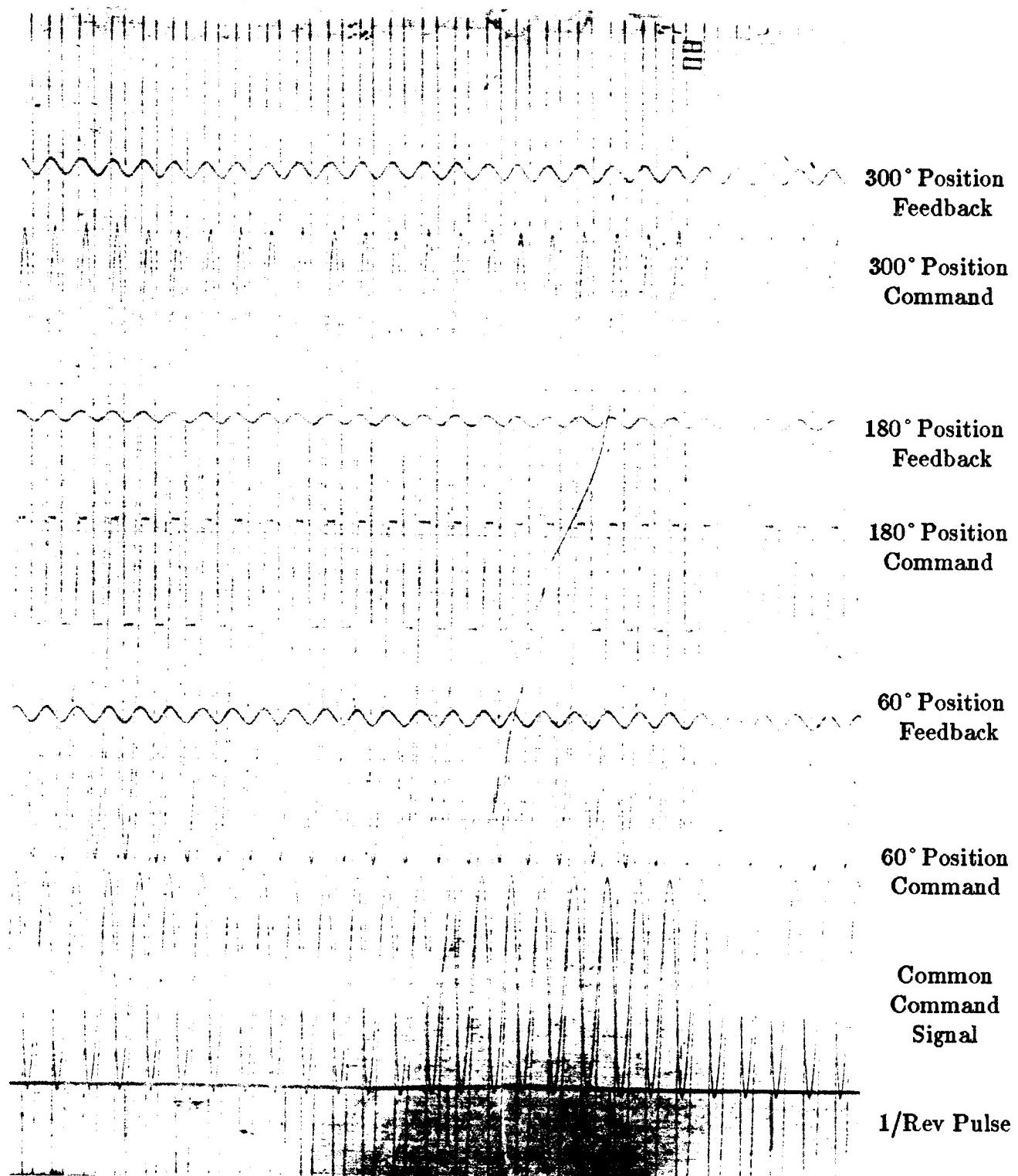


7.5 Volts Half Peak-To-Peak Input at 73.3 Hz.

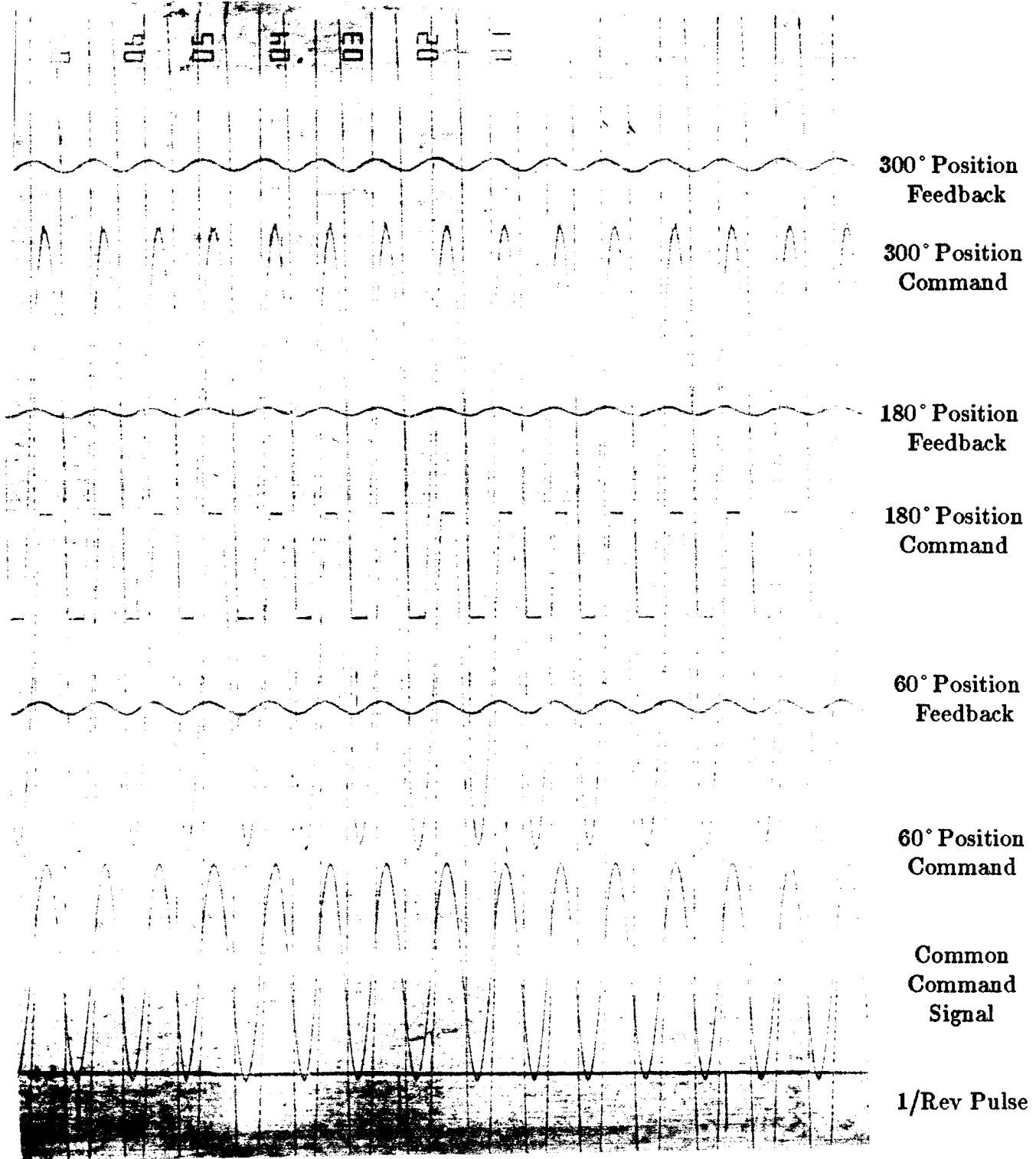


7.5 Volts Half Peak-To-Peak Input at 82.5 Hz.

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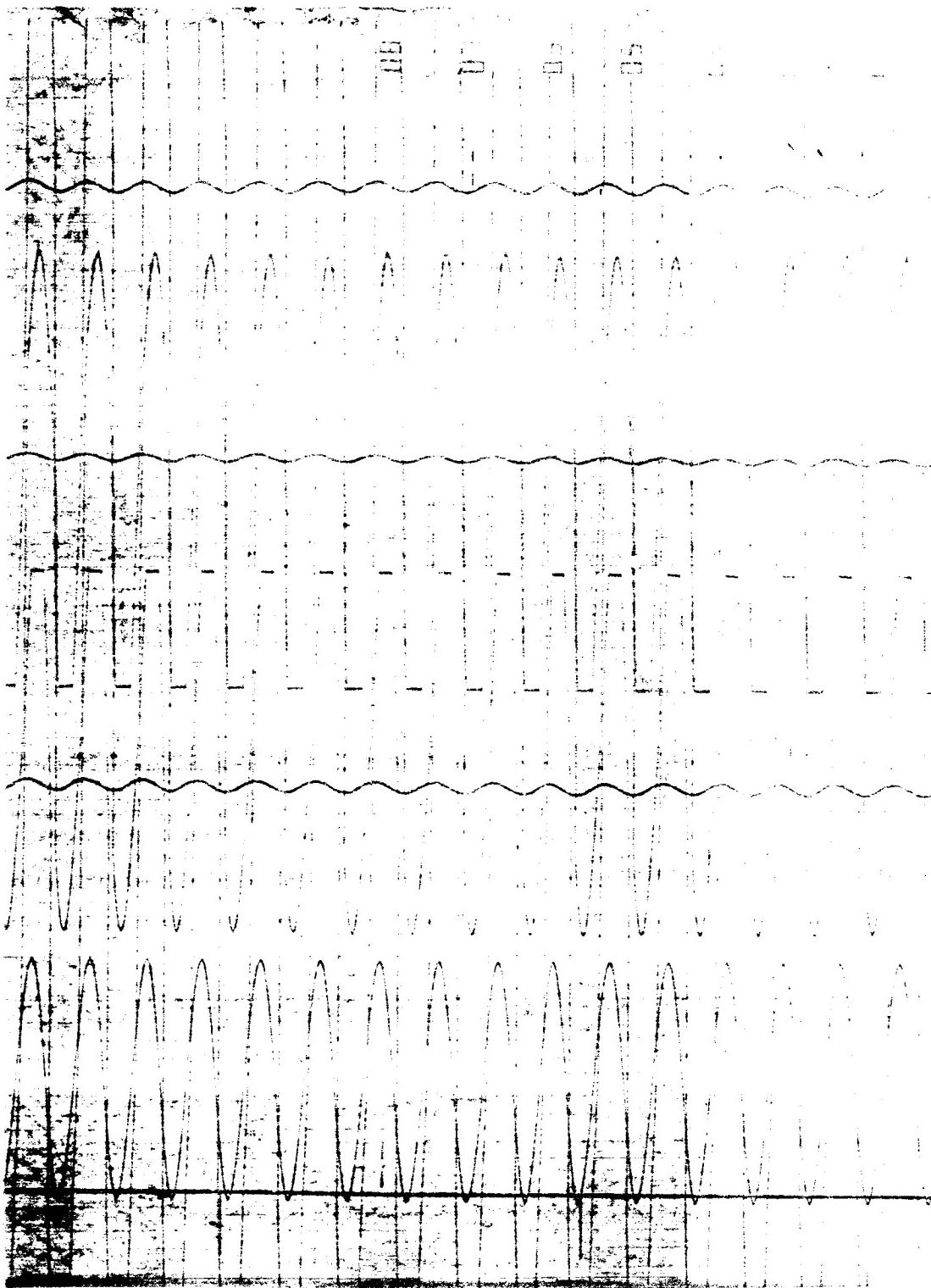


7.5 Volts Half Peak-To-Peak Input at 91.6 Hz.

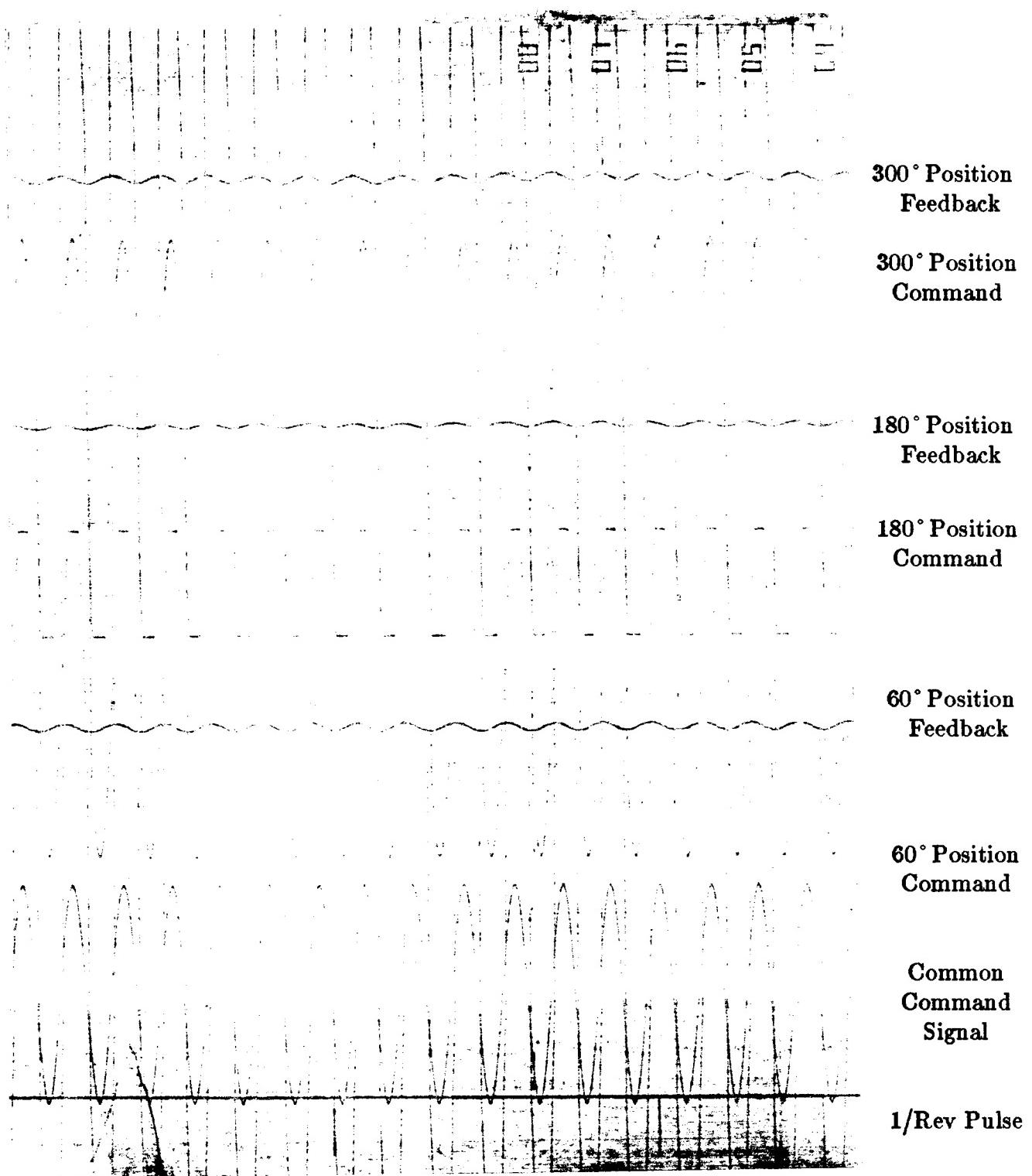


7.5 Volts Half Peak-To-Peak Input at 100.8 Hz.

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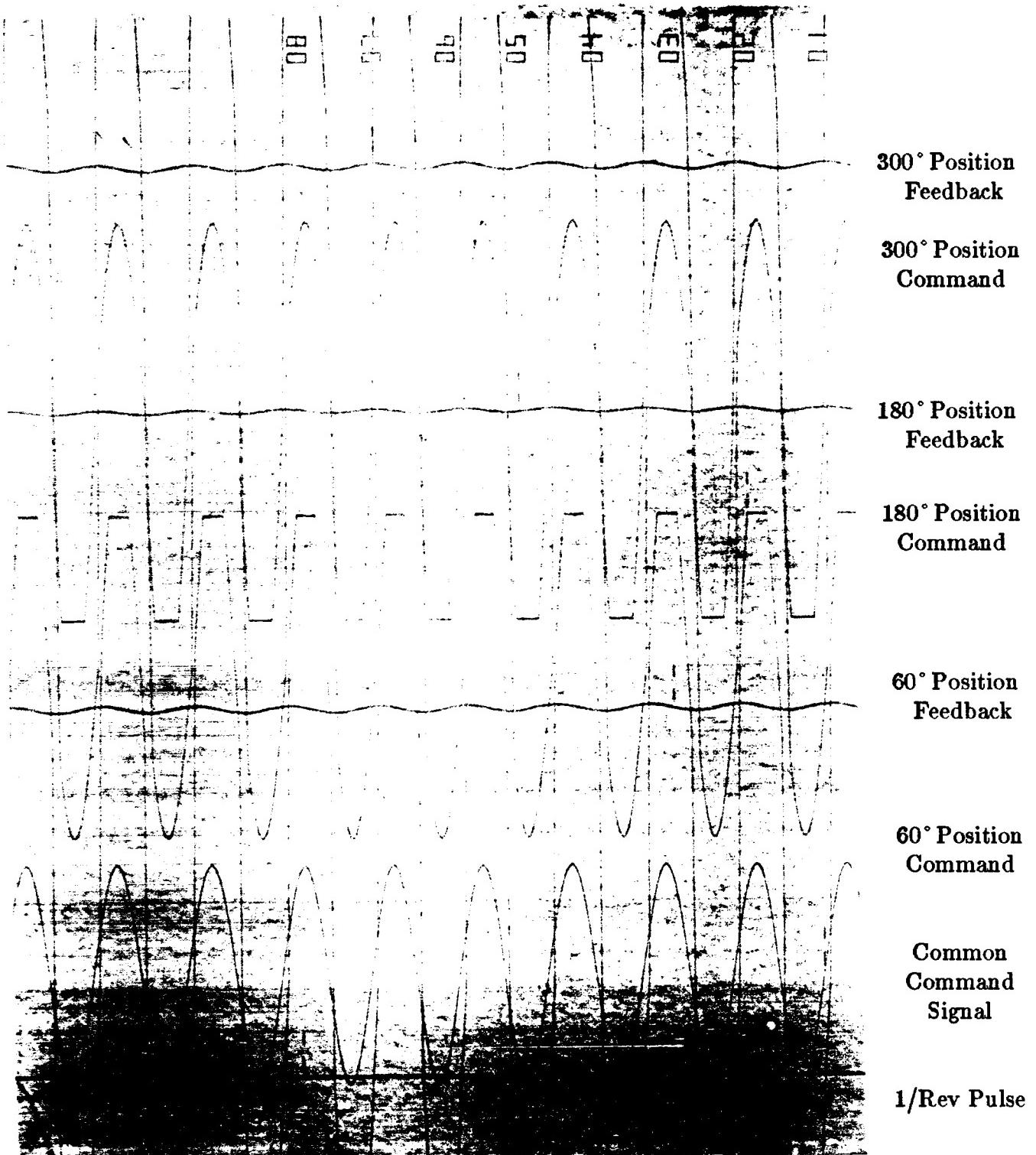


**7.5 Volts Half Peak-To-Peak Input at 110.0 Hz.**



**7.5 Volts Half Peak-To-Peak Input at 119.2 Hz.**

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7.5 Volts Half Peak-To-Peak Input at 128.3 Hz.

**Table B7**

Summary of actuator frequency response data for  
7.5 volts half peak-to-peak command input.

Frequency Per/Rev	Frequency In Hz	Magnitude In Counts	Relative Magnitude	Magnitude In ± Degs	Phase In Degs
	1.0	1156	1.00	2.50	0
3.0/Rev	55.0	668	0.58	1.45	130
3.5/Rev	64.2	539	0.47	1.18	170
4.0/Rev	73.3	427	0.37	0.93	180
4.5/Rev	82.5	357	0.31	0.78	185
5.0/Rev	91.6	337	0.29	0.73	190
5.5/Rev	100.8	277	0.24	0.60	195
6.0/Rev	110.0	230	0.20	0.50	200
6.5/Rev	119.2	218	0.19	0.48	210
7.0/Rev	128.3	181	0.16	0.40	220

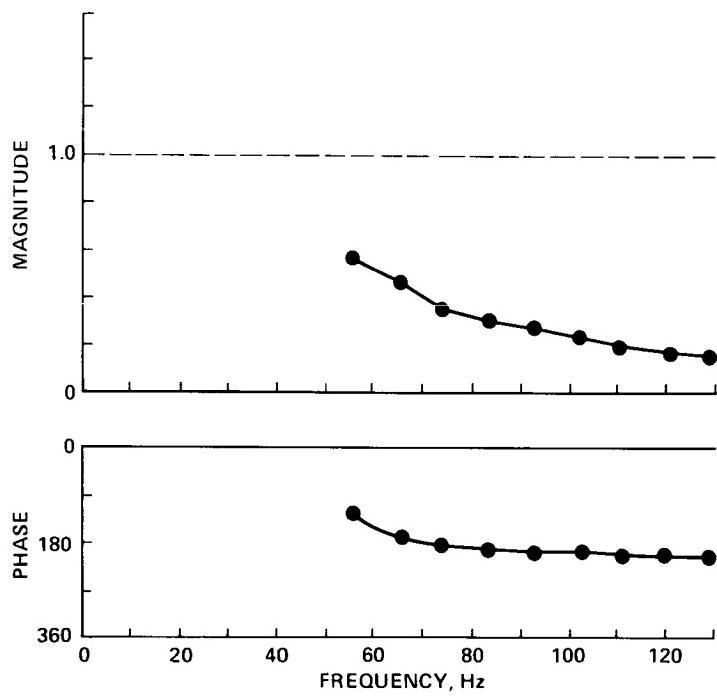
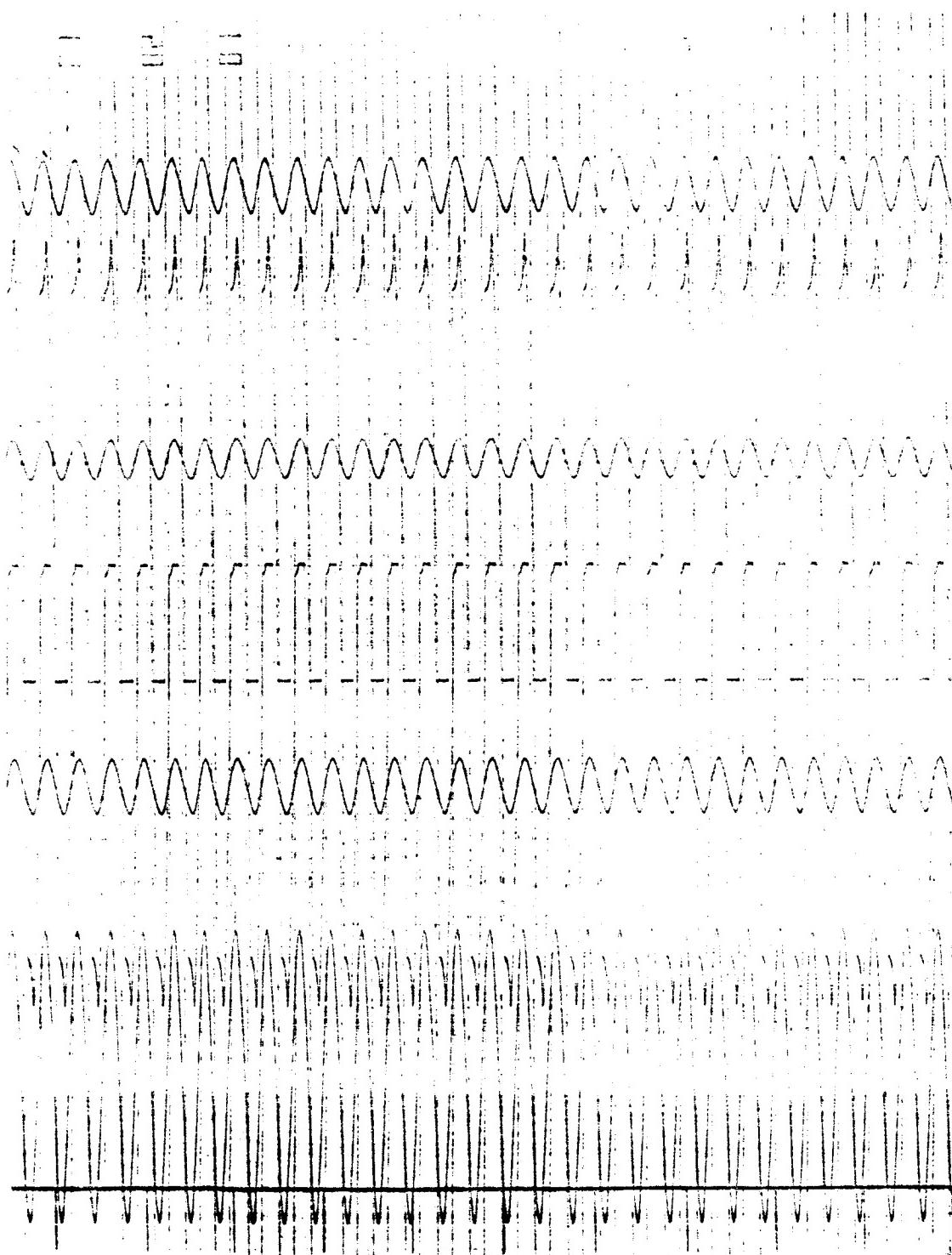


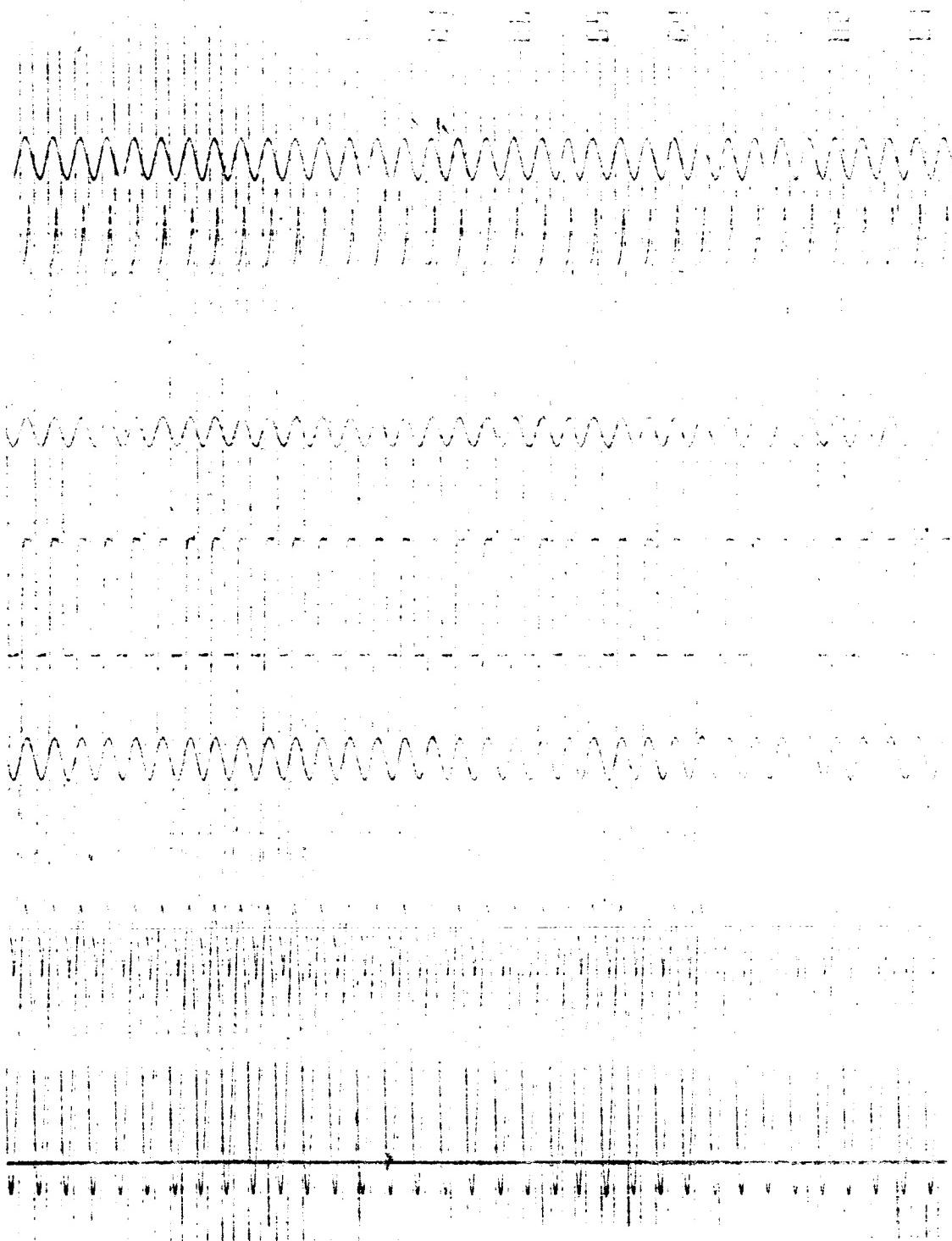
Figure B6  
Frequency Response at  $\pm$  7.5 Volts Excitation.

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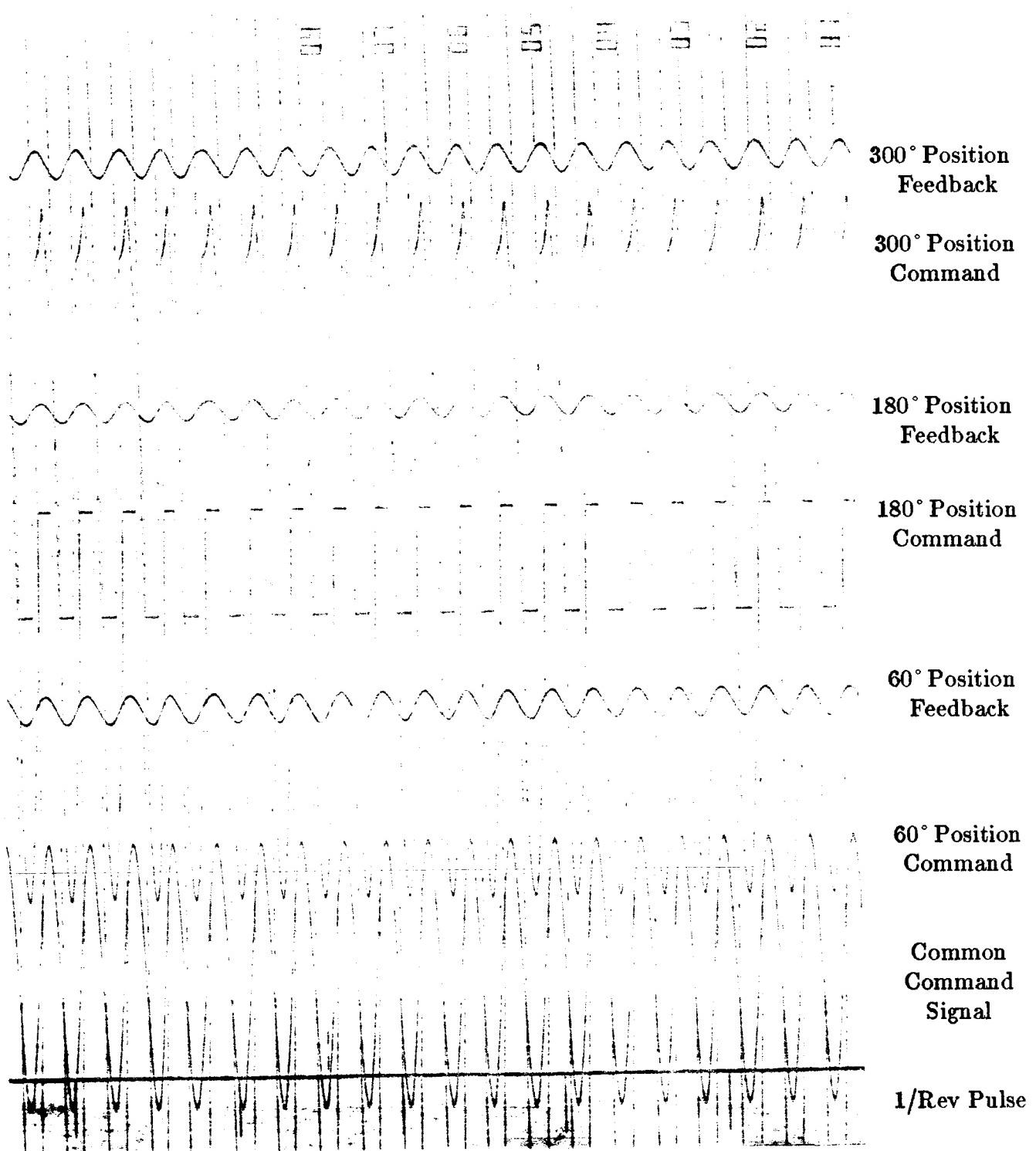


9.0 Volts Half Peak-To-Peak Input at 55.0 Hz.

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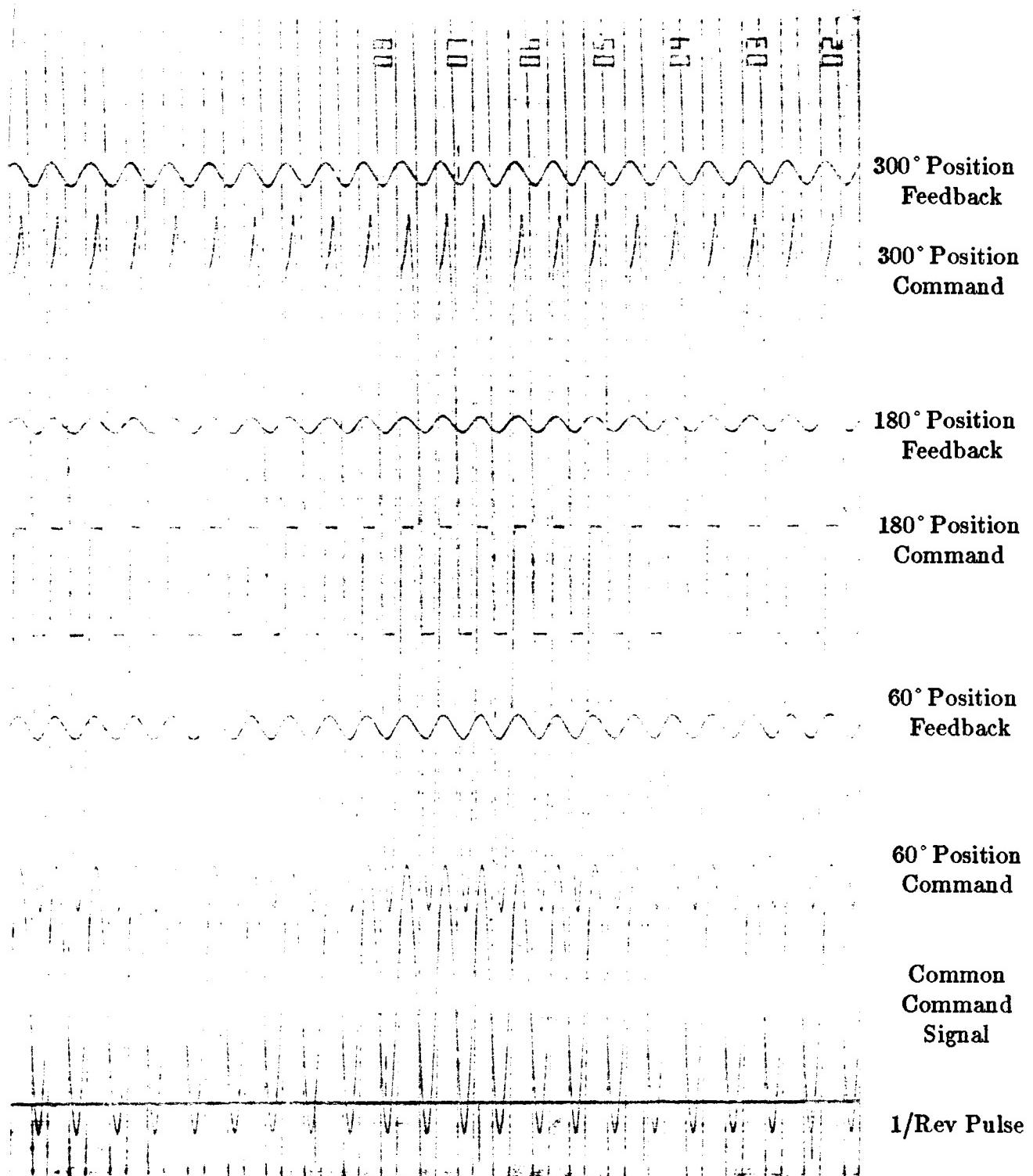


9.0 Volts Half Peak-To-Peak Input at 64.2 Hz.

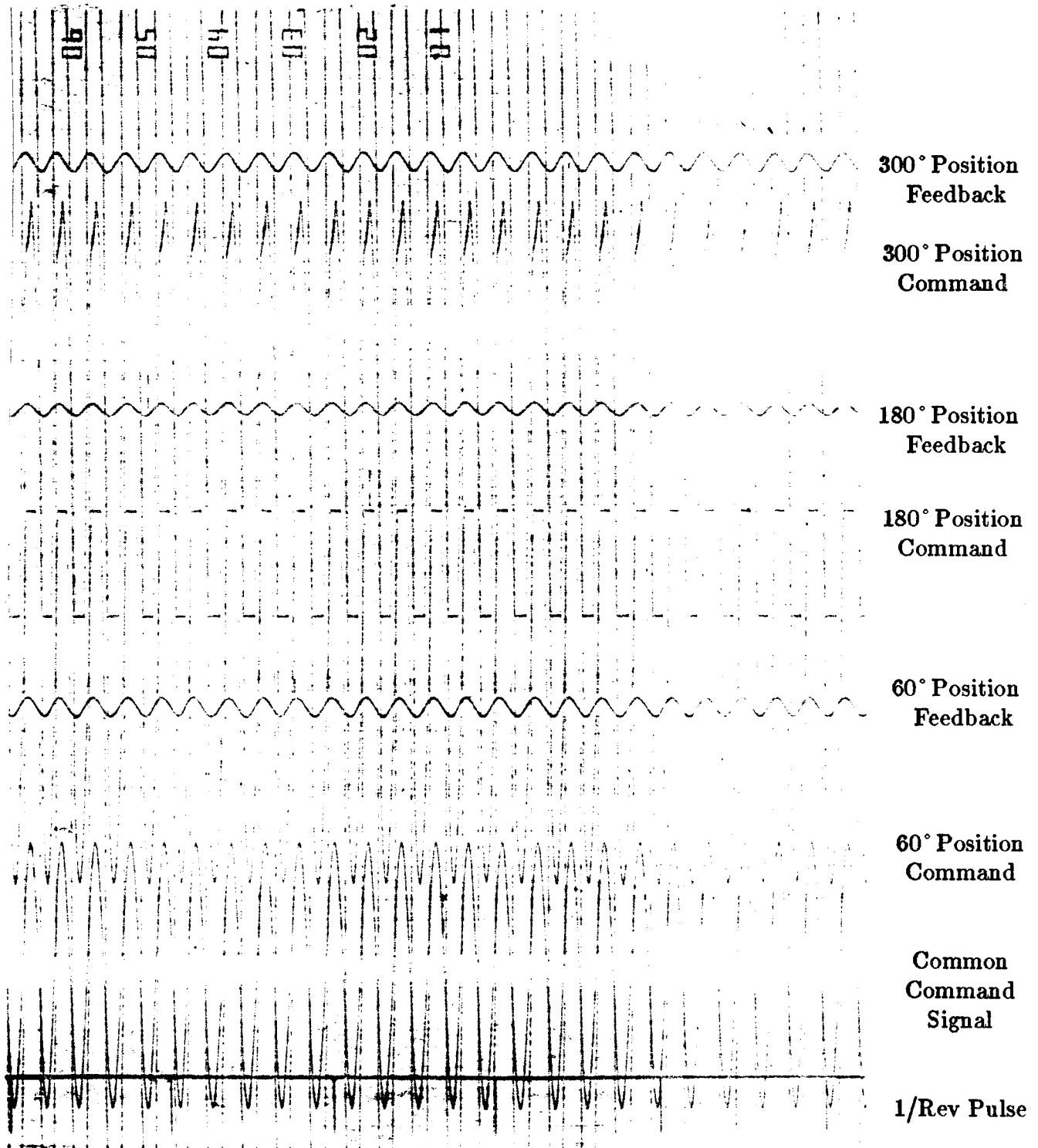


9.0 Volts Half Peak-To-Peak Input at 73.3 Hz.

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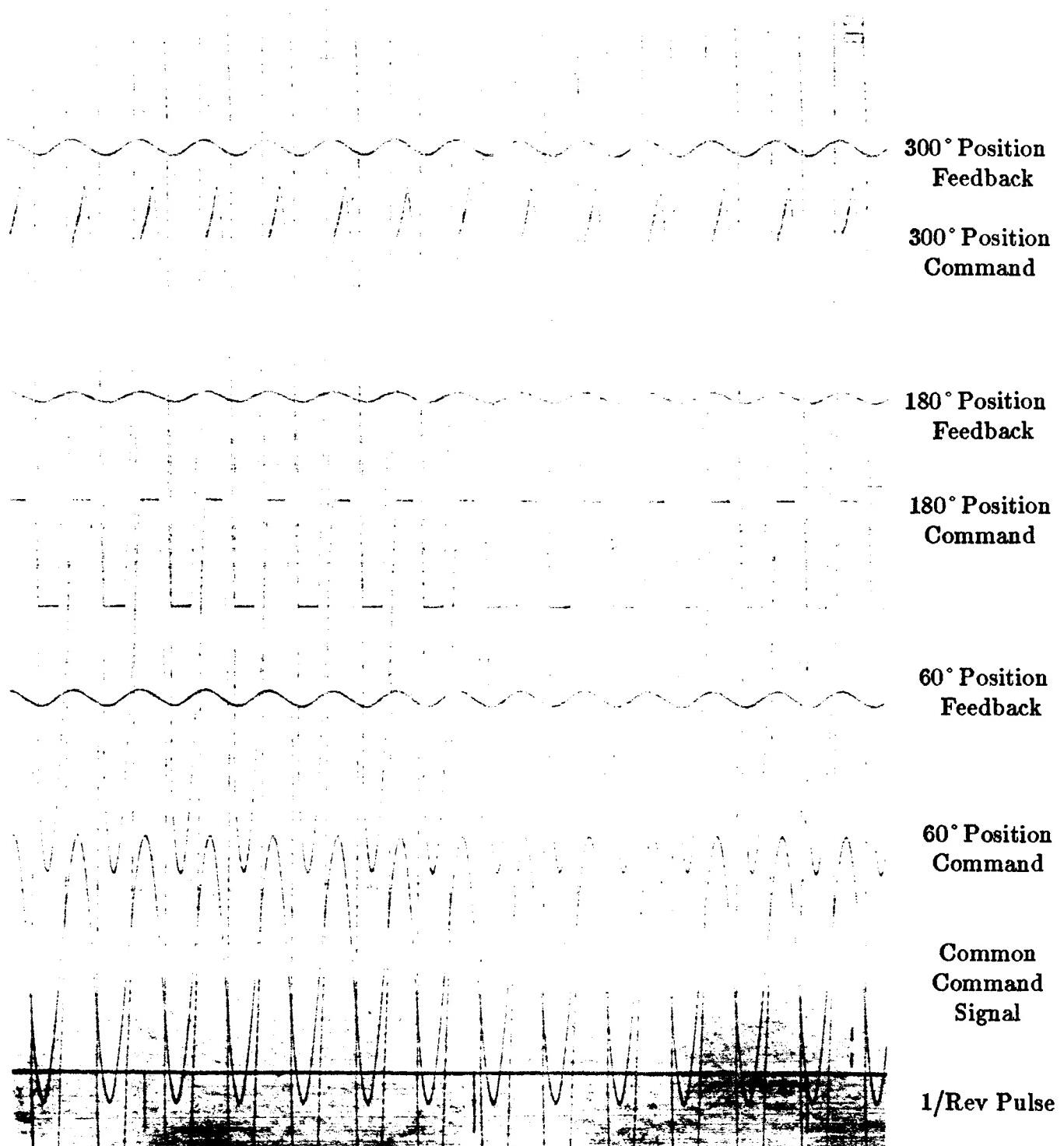


9.0 Volts Half Peak-To-Peak Input at 82.5 Hz.

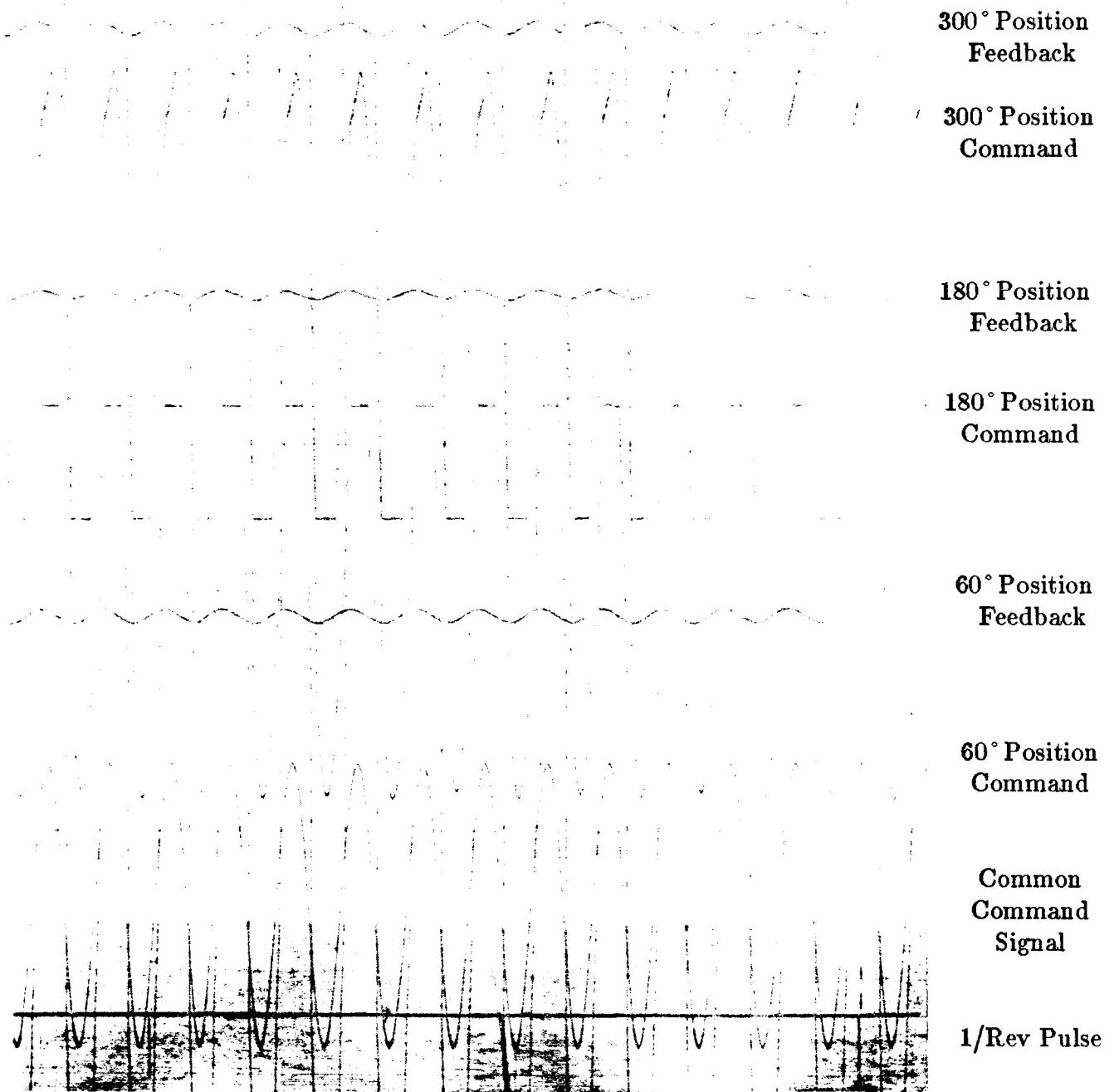


9.0 Volts Half Peak-To-Peak Input at 91.6 Hz.

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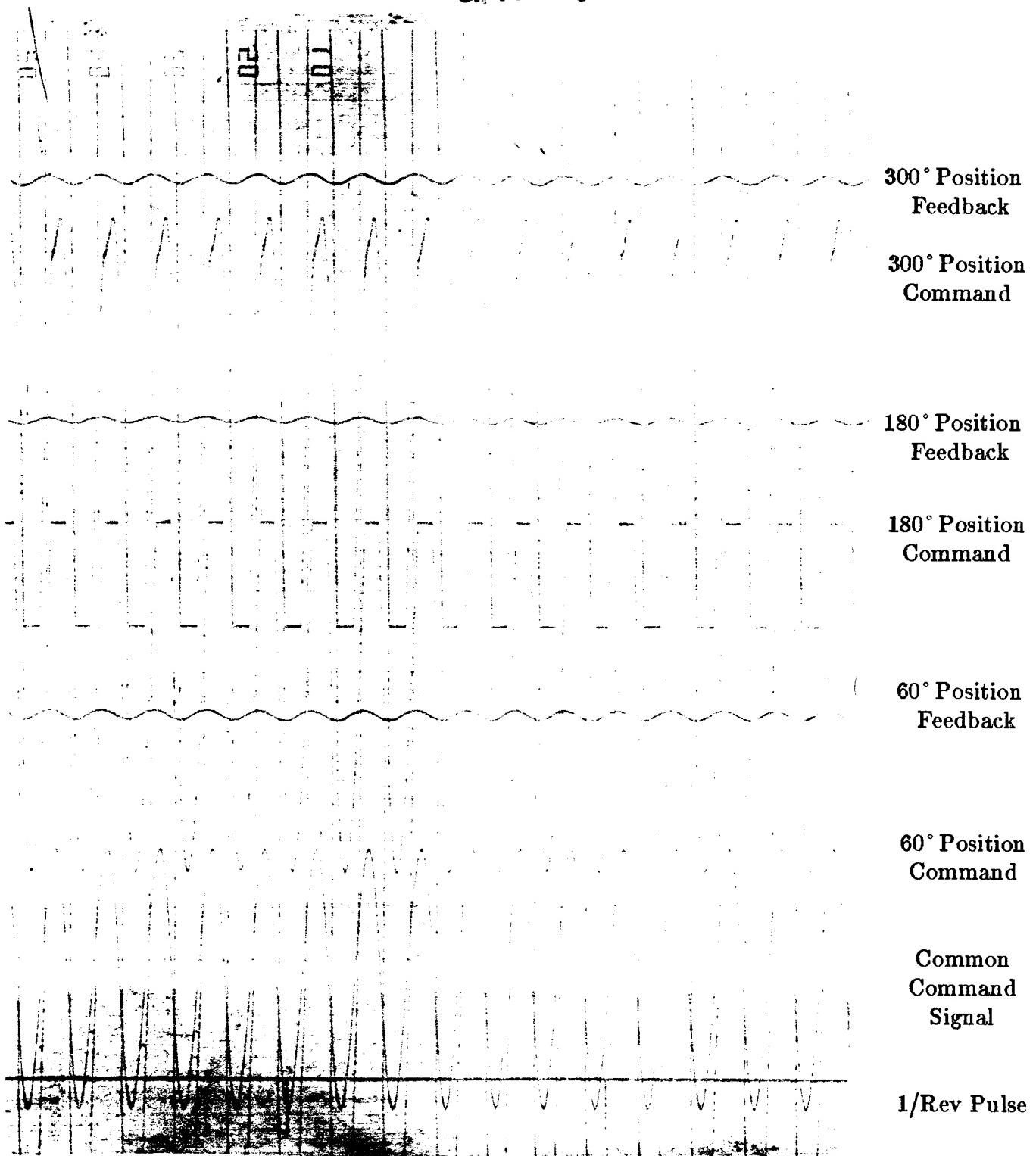
9.0 Volts Half Peak-To-Peak Input at 100.8 Hz.



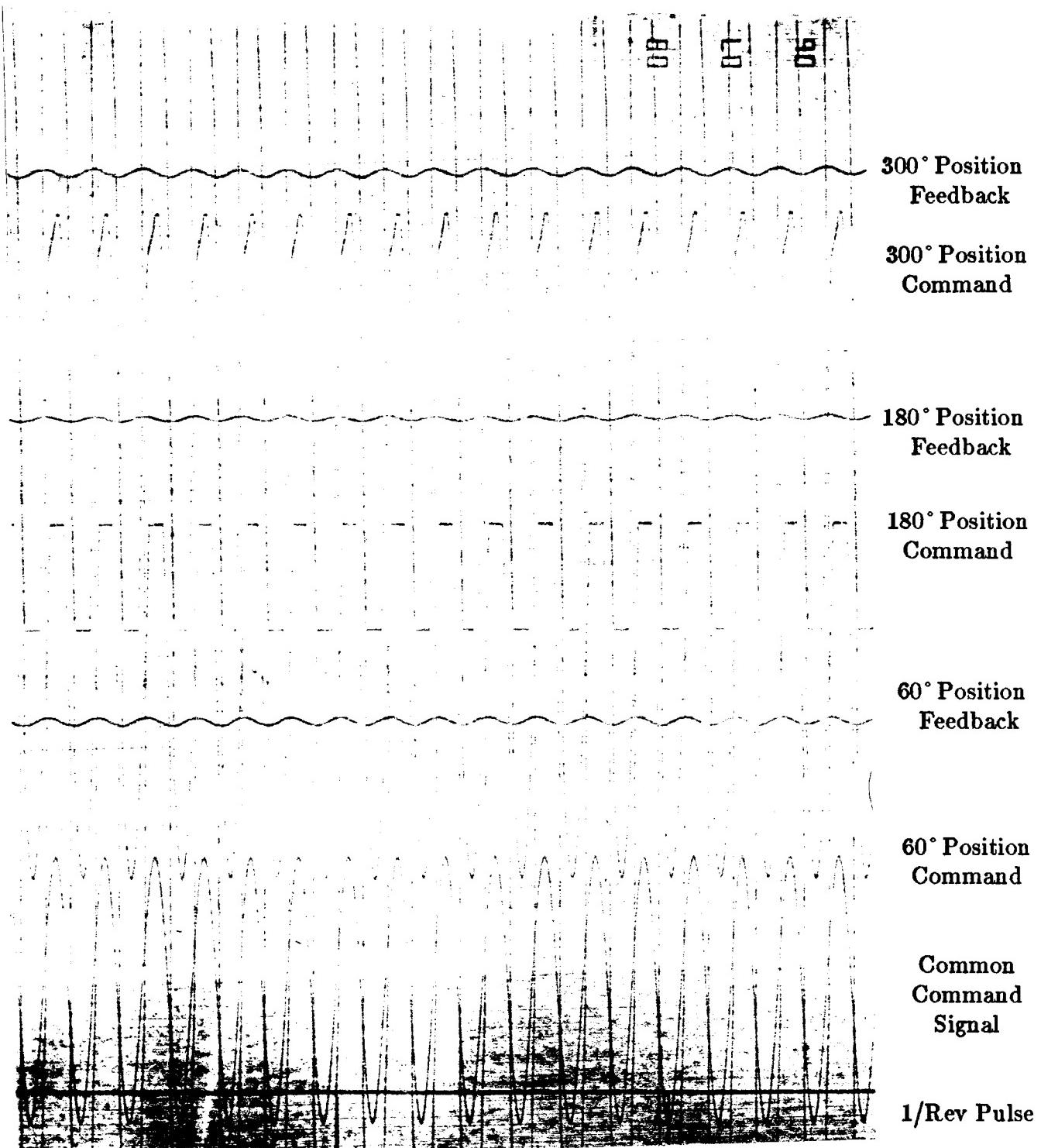
9.0 Volts Half Peak-To-Peak Input at 110.0 Hz.

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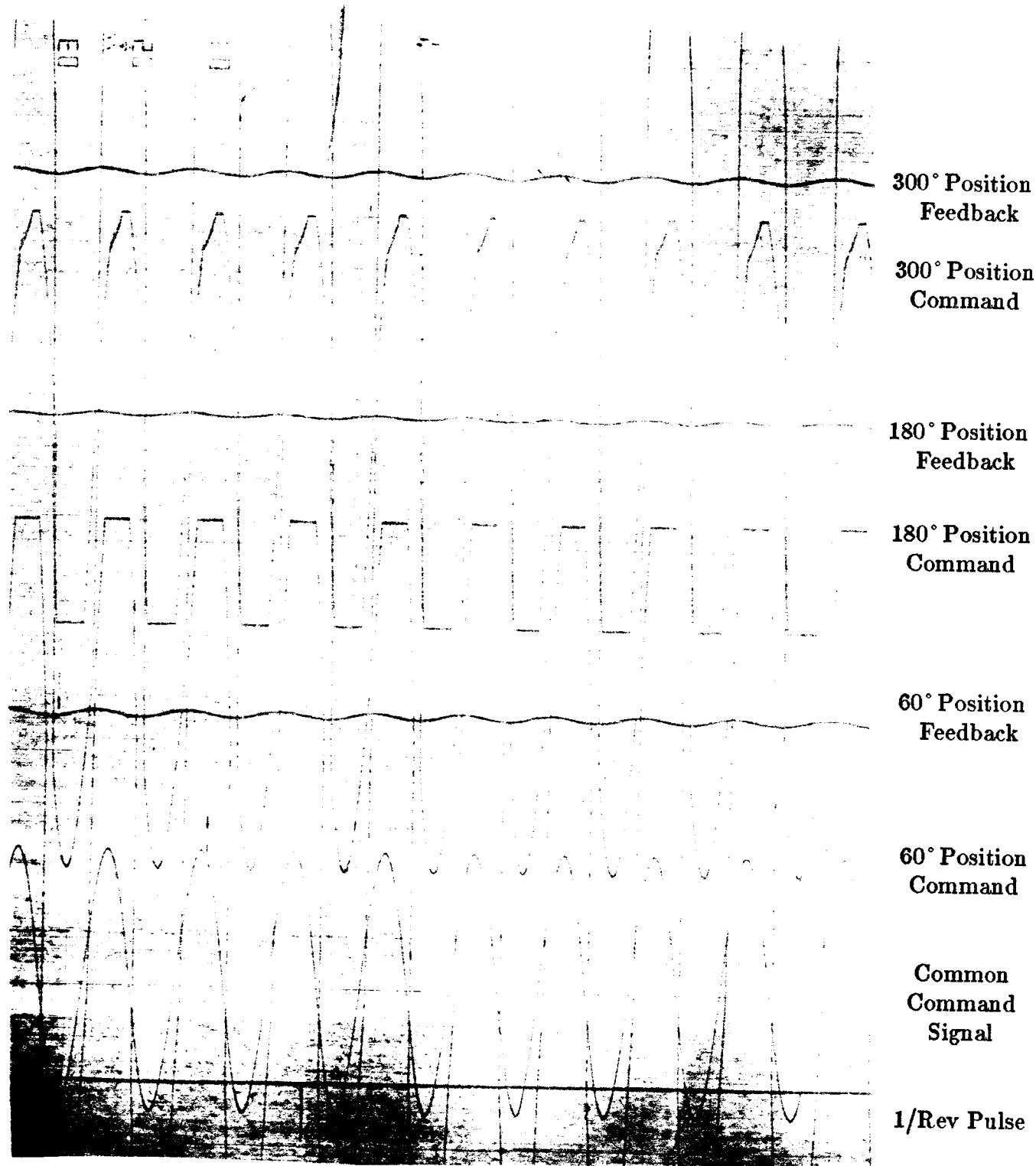


9.0 Volts Half Peak-To-Peak Input at 119.2 Hz.



9.0 Volts Half Peak-To-Peak Input at 128.3 Hz.

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9.0 Volts Half Peak-To-Peak Input at 128.3 Hz.

Table B8

Summary of actuator frequency response data for  
9.0 volts half peak-to-peak command input.

Frequency Per/Rev	Frequency In Hz	Magnitude In Counts	Relative Magnitude	Magnitude In $\pm$ Degs	Phase In Degs
	1.0	1378	1.00	3.0	0
3.0/Rev	55.0	653	0.47	1.41	150
3.5/Rev	64.2	518	0.38	1.14	175
4.0/Rev	73.3	416	0.30	0.90	180
4.5/Rev	82.5	349	0.25	0.75	185
5.0/Rev	91.6	354	0.26	0.78	190
5.5/Rev	100.8	274	0.20	0.60	195
6.0/Rev	110.0	237	0.17	0.51	205
6.5/Rev	119.2	199	0.14	0.42	210
7.0/Rev	128.3	185	0.13	0.39	220

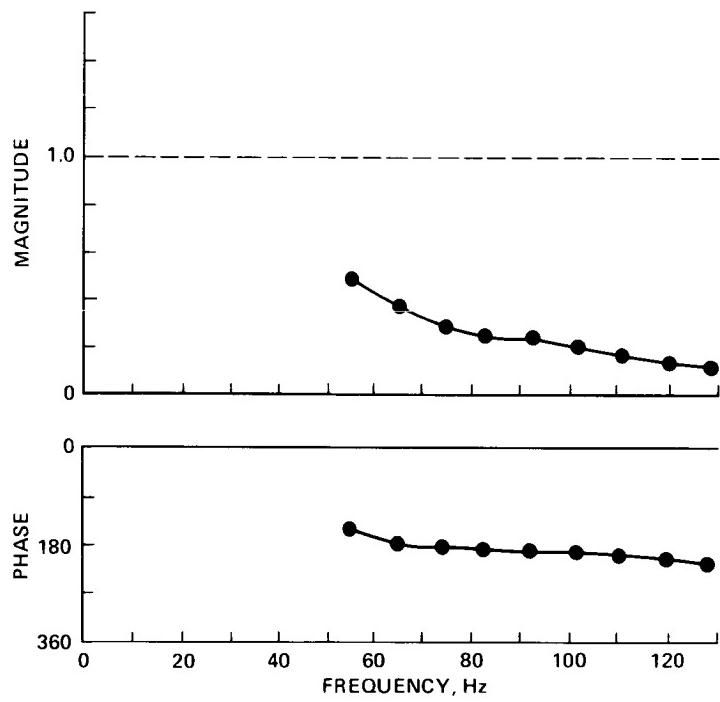


Figure B7

Frequency Response at  $\pm$  9.0 Volts Excitation.

## APPENDIX C

### The Least Square Error System Identification Method

In this appendix the ordinary least square error (LSE) method of system identification is presented in terms of the nomenclature of this report. This technique was independently formulated by Legendre and Gauss in the early 1800's to identify constant parameters in the presence of measurement noise. Today, nearly all forms of parameter identification techniques for systems identification, whether off-line or on-line, stem from this important method.

Identification by the ordinary least squares method is primarily used for off-line identification of the system parameters which are assumed to be constant for a given test condition. To use this technique, the output responses to a series of open-loop batch inputs are carefully recorded. Then, using the assumed form of the system equations, an error vector is formed as the difference between the measured system response and the response predicted by the system equations and the identified model. By choosing the value of the estimate which minimizes the square of the errors, the "least square error" estimate is determined.

Application of the method of ordinary least squares to identify the local transfer matrix model is presented here. Identification of the global model is done in the same manner once the augmented  $T^*$ ,  $\Theta^*$ , and  $z$  matrices have been substituted in the appropriate places in the local model solution. Writing the local model system equations again,

$$\Delta z(k) = T \Delta \theta(k) \quad (c1)$$

it can be noted that an error vector to express the error in  $T$  can be written as

$$e(k) = \Delta z(k) - T \Delta \theta(k) \quad (c2)$$

ignoring any errors in the measurement of  $z$ . The value of the  $T$  matrix which minimizes the sum of the squares of these errors is sought. That is, it is desired to minimize  $J(T)$ , where,

$$J(T) = \sum_{k=1}^m e^2(k, T) \quad (c3)$$

and  $m$  denotes the number of measurements in the calculation batch. Though there is no upper limit to  $m$ , to be determinate,  $m$  must be greater than or equal to the number of columns in  $T$ . As  $m$  is chosen larger, better measurement noise rejection capability is

obtained, at the expense of increased calculation. ( See reference [8] for details.) Working with the  $T$  matrix one row at a time and dropping the  $k$  step nomenclature, we may write for each  $i^{th}$  row of the  $T$  matrix,

$$\begin{pmatrix} e_1 \\ e_2 \\ \vdots \\ e_m \end{pmatrix} = \begin{pmatrix} \Delta z_{1i} \\ \Delta z_{2i} \\ \vdots \\ \Delta z_{mi} \end{pmatrix} - \begin{pmatrix} \dots & \Delta\theta_1^T & \dots \\ \dots & \Delta\theta_2^T & \dots \\ \dots & \dots & \dots \\ \dots & \dots & \dots \\ \dots & \Delta\theta_n^T & \dots \end{pmatrix} \begin{pmatrix} T_i^T \\ \vdots \\ \vdots \end{pmatrix} \quad (c4)$$

or more compactly, as,

$$e_i = \Delta Z_i - \Delta\Theta T_i^T \quad (c5)$$

where  $\Delta Z_i$  is vector of  $m$  scalar measurements for the row of the  $T$  matrix relating it to the control inputs,  $\Delta\Theta$  is a matrix whose rows are the  $m$  excitation commands transposed, and  $e_i$  is the ( $m \times 1$ ) error vector formed from  $\Delta\Theta$  and the  $i^{th}$  row of  $T$ . The square error for the  $i^{th}$  row of  $T$  can then be expressed as

$$\begin{aligned} e_i^2 &= (e_i^T)(e_i) \\ &= (\Delta Z_i^T - T_i \Delta\Theta^T)(\Delta Z_i - \Delta\Theta T_i^T) \\ &= \Delta Z_i^T \Delta Z_i - T_i \Delta\Theta^T \Delta Z_i - \Delta Z_i^T \Delta\Theta T_i^T \\ &= \Delta Z + T_i \Delta\Theta^T \Delta\Theta T_i^T \end{aligned} \quad (c6)$$

Seeking a minimum of this function, the first derivative is taken with respect to the  $T_i$  parameters.

$$\frac{\partial e_i^2}{\partial T_i} = -2\Delta\Theta^T \Delta Z_i + 2\Delta\Theta^T \Delta\Theta T_i^T \quad (c7)$$

When this expression is set equal to zero, the ordinary least square error normal equations are produced, and yield the least square estimate for the  $i^{th}$  row of the  $T$  matrix as

$$T_i = \Delta Z_i^T \Delta\Theta [\Delta\Theta^T \Delta\Theta]^{-1} \quad (c8)$$

Then for the entire  $T$  matrix, equation 17 can be placed into matrix form as

$$T = \Delta Z \Delta\Theta [\Delta\Theta^T \Delta\Theta]^{-1} \quad (c9)$$

where  $\Delta Z$  is defined to be

$$\Delta Z = \begin{pmatrix} \Delta z_{1,1} & \Delta z_{1,2} & \dots & \dots & \dots & \Delta Z_{1,m} \\ \dots & \dots & \dots & \dots & \dots & \dots \\ \dots & \dots & \dots & \dots & \dots & \dots \\ \dots & \dots & \dots & \dots & \dots & \dots \\ \dots & \dots & \dots & \dots & \dots & \dots \\ \Delta z_{2n,1} & \Delta z_{2n,2} & \dots & \dots & \dots & \Delta Z_{2n,m} \end{pmatrix} \quad (c10)$$

meaning an  $(2n \times m)$  matrix whose  $m$  columns are the  $m$  number of vibration measurements taken from the "n" accelerometers, and where  $\Delta\Theta$  represents an  $(m \times 6)$  matrix of the corresponding  $m$  control inputs,

$$\Delta\Theta = \begin{pmatrix} \Delta\theta_{1,1} & \Delta\theta_{1,2} & \dots & \dots & \dots & \Delta\theta_{1,6} \\ \dots & \dots & \dots & \dots & \dots & \dots \\ \dots & \dots & \dots & \dots & \dots & \dots \\ \dots & \dots & \dots & \dots & \dots & \dots \\ \Delta\theta_{m,1} & \Delta\theta_{m,2} & \dots & \dots & \dots & \Delta\theta_{m,6} \end{pmatrix} \quad (c11)$$

This matrix has six columns corresponding to the cosine and sine coefficients of the longitudinal, collective, and lateral N/Rev pitch command vector.

The least squares formula for the global model is given by

$$T_{Global}^* = Z\Theta^*[{\Theta^*}^T \Theta^*]^{-1} \quad (c12)$$

The asterisk denotes that the global matrix is an augmented matrix, formed by appending the uncontrolled vibration vector,  $z_0$ , to the  $(2n \times 6)$  global transfer matrix,

$$T_{Global}^* = \begin{pmatrix} t_{1,1} & \dots & \dots & t_{1,6} & z_{0_1} \\ t_{2,1} & \dots & \dots & t_{2,6} & z_{0_2} \\ \dots & \dots & \dots & \dots & \dots \\ \dots & \dots & \dots & \dots & \dots \\ t_{2n,1} & - & - & t_{2n,6} & z_{0_{2n}} \end{pmatrix} \quad (13)$$

and where  $\Theta^*$  is defined to be

$$\Delta\Theta = \begin{pmatrix} \Delta\theta_{1,1} & \Delta\theta_{1,2} & \dots & \dots & \dots & \Delta\theta_{1,6} & 1 \\ \dots & \dots & \dots & \dots & \dots & \dots & \dots \\ \dots & \dots & \dots & \dots & \dots & \dots & \dots \\ \dots & \dots & \dots & \dots & \dots & \dots & \dots \\ \Delta\theta_{m,1} & \Delta\theta_{m,2} & \dots & \dots & \dots & \Delta\theta_{m,6} & 1 \end{pmatrix} \quad (c14)$$

## APPENDIX D

### System Identification Excitation Commands and Harmonic Content of Vibratory Responses

This appendix presents the data acquired during the system identification testing. The first two pages give the excitation commands used to excite the high-speed actuators. The remaining pages give the mean value and first twelve harmonics for each response channel for every data point. In addition, for the first or second data point of every run, analog plots of the data have been included to allow the reader to assess the quality of the data obtained. Note that PLL1 and N2BL are the pitch link load and normal balance signals substituted in lieu of accelerometer inputs. Table D1 gives the organization of the appendix.

Table D1  
Index of Data Points

Model Type	Batch Size	Excitation Amplitude	Rotor RPM	Data Points	Run Data On Pages
LOCAL	36	0.5 Volts*	1100	32-72	D4-D25
LOCAL	36	1.0 Volts	1100	73-113	D26-D47
GLOBAL	36	1.0 Volts	1100	114-154	D48-D69
GLOBAL	48	1.0 Volts	1100	155-207	D70-D97
GLOBAL	48	6.0 Volts**	550	313-365	D98-D125
LOCAL	48	3.0 Volts	550	366-418	D126-D153
LOCAL	48	6.0 Volts	550	419-471	D154-D181

\*  $\pm 0.5$  Volts =  $\pm 0.15$  degrees at 1100 RPM.

\*\*  $\pm 6.0$  Volts =  $\pm 2.0$  degrees at 550 RPM.

Table D2  
 List of Excitation Commands Used in Least  
 Square Error System Identification Test\*

Command Number	Long. Cosine	Long. Sine	Coll. Cosine	Coll. Sine	Lat. Cosine	Lat. Sine
1	-100.00	66.57	-63.86	2.24	11.90	-0.37
2	-100.00	26.41	69.72	13.72	69.74	-56.51
3	-77.85	-26.30	-29.38	21.67	60.50	39.02
4	52.62	-5.74	-33.28	9.15	97.55	83.47
5	-64.00	-93.04	-88.10	-38.87	-33.29	70.18
6	80.58	97.12	37.11	-93.88	-23.10	75.07
7	77.97	47.26	-9.20	21.38	-45.35	-53.84
8	-22.60	83.71	25.62	-60.96	22.29	43.60
9	-4.81	15.54	26.13	43.81	82.29	73.63
10	76.44	-13.80	-24.78	-56.19	-91.47	6.46
11	-62.84	59.37	-20.60	-56.31	-98.68	84.83
12	27.76	-14.57	55.40	-88.77	-1.10	-87.06
13	-46.16	50.61	-53.15	29.13	-27.11	-42.40
14	-50.66	-33.60	-19.14	-84.60	17.34	81.71
15	-72.77	54.67	58.31	58.75	-49.08	28.64
16	-63.40	34.74	-46.69	-13.36	45.81	3.54
17	56.90	69.38	-67.06	15.52	12.72	-43.10
18	43.30	62.58	-74.92	33.17	31.68	-50.37
19	-44.11	-39.30	65.46	-8.57	-72.30	99.58
20	23.62	-71.96	-1.94	-50.92	41.94	96.62
21	-21.20	-67.82	69.27	-25.62	95.28	45.95
22	88.70	44.39	72.03	-84.27	-60.83	86.14
23	-13.82	40.77	73.01	92.18	40.83	6.91
24	-82.81	80.24	80.32	46.37	15.86	-82.77
25	-62.76	3.32	42.07	87.69	20.49	63.31

\* Percentage of longitudinal, collective, and lateral 4/Rev HHC pitch control inputs

Table D2, Continued

Command Number	Long. Cosine	Long. Sine	Coll. Cosine	Coll. Sine	Lat. Cosine	Lat. Sine
26	-93.14	-11.67	35.98	77.33	-53.99	-38.99
27	81.78	10.79	-36.92	59.29	-59.33	-75.11
28	0.32	25.03	94.74	11.62	33.82	-73.35
29	-18.23	-29.49	-23.20	91.66	31.71	-70.63
30	99.64	93.51	60.68	8.49	96.26	-66.66
31	-80.65	-83.24	58.02	-90.59	16.99	-93.79
32	-60.04	-82.80	52.90	24.26	46.35	91.97
33	-71.04	-45.28	10.07	-1.74	-25.55	-70.24
34	58.38	-14.51	-44.30	82.21	85.48	-89.94
35	-85.38	19.96	-47.92	-56.88	86.07	78.10
36	9.12	-53.37	26.47	19.97	2.51	42.17
37	-33.73	32.30	17.66	-83.40	98.54	-14.16
38	-23.50	92.61	-26.15	70.07	-46.97	-48.06
39	59.34	86.53	41.23	-97.42	-36.47	17.87
40	61.16	23.02	-19.88	-90.87	91.35	-29.87
41	96.24	41.38	70.47	46.04	75.87	-15.44
42	-99.73	29.10	64.29	2.79	87.46	-38.60
43	-84.20	28.52	-1.85	67.97	-30.20	54.90
44	-34.51	40.98	-96.68	12.94	-80.13	-10.12
45	-56.96	94.18	-59.74	62.71	-44.72	-10.79
46	1.95	69.43	85.51	59.33	-70.59	-63.40
47	-34.20	-6.89	-10.73	-10.30	-34.96	-4.21
48	64.34	-15.21	0.68	-23.20	-13.11	8.50
49	-6.87	-32.59	-72.91	71.65	-73.23	-96.74
50	9.83	-51.69	-87.28	-80.72	-93.70	25.99
51	61.08	-53.03	-19.46	-96.72	60.51	-80.33
52	-40.36	82.10	49.94	-29.89	-37.81	-77.91

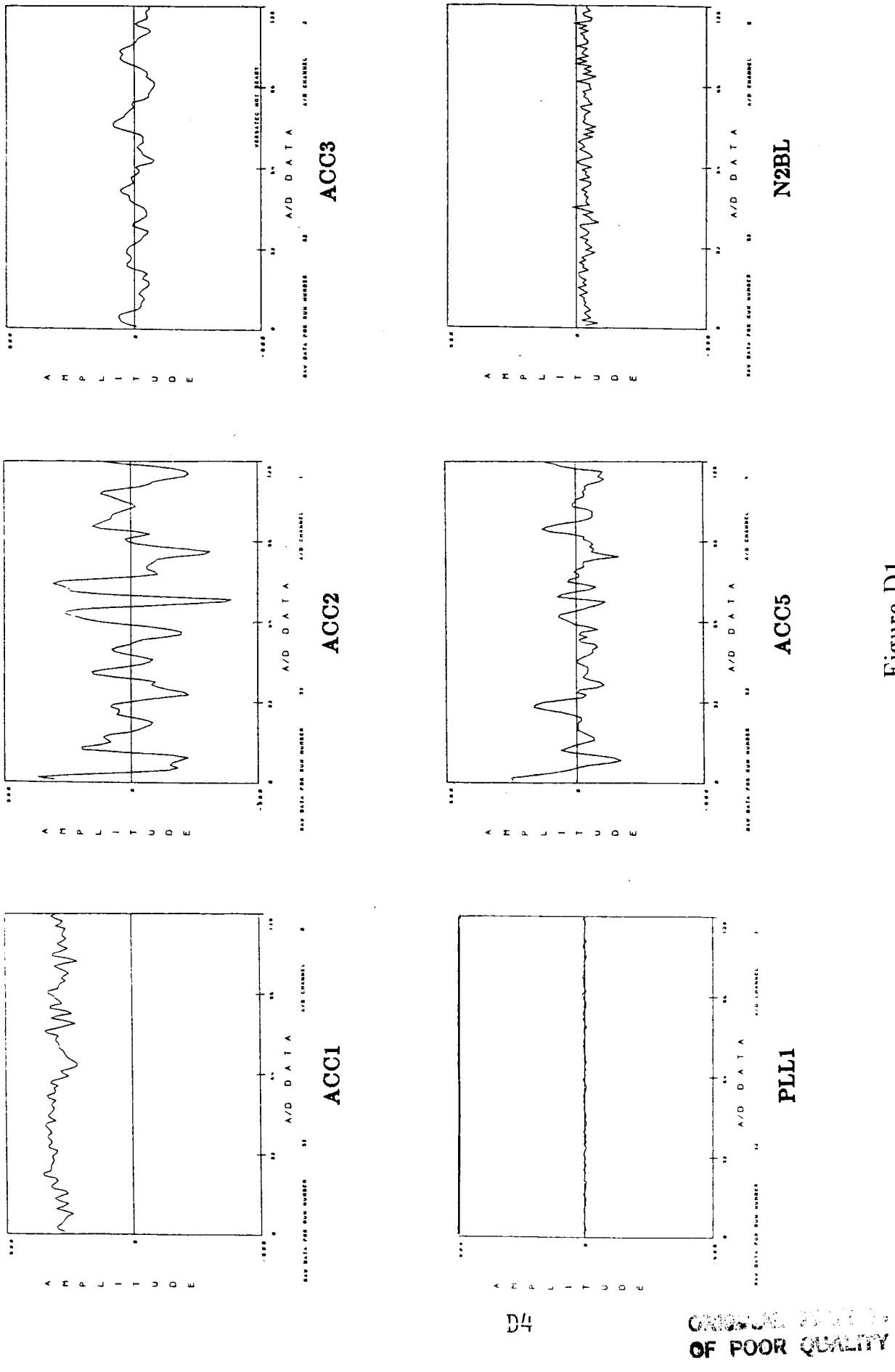


Figure D1

Analog presentation of vibratory response data for data point 32.  
Data window is 1 rotor revolution, with 128 samples/rev.

## FFT COEFFICIENTS FOR DATA POINT 32

HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL
DC	584.91 0.00	-11.43 0.00	-19.19 0.00	-0.58 0.00	-25.16 0.00	-69.57 0.00
1 COS 1 SIN	-5.35 -19.65	-5.39 3.24	-5.07 0.12	0.01 1.60	13.58 -7.35	1.33 -0.35
2 COS 2 SIN	-15.78 -3.23	15.55 -4.72	1.32 -1.46	-0.27 -0.12	3.06 -8.85	0.72 -0.73
3 COS 3 SIN	9.20 -1.64	-37.89 10.20	2.90 5.56	-0.23 -0.60	-6.36 11.36	-5.83 -0.05
4 COS 4 SIN	-3.12 7.59	-33.27 -43.94	-13.52 2.96	0.10 -0.08	32.55 -6.84	-4.21 0.47
5 COS 5 SIN	8.18 2.72	43.16 8.48	20.88 -38.08	0.93 -0.49	38.88 -11.28	-2.43 1.83
6 COS 6 SIN	-2.97 4.05	32.12 18.33	8.42 -4.60	-0.64 0.23	15.44 -1.63	1.02 -0.70
7 COS 7 SIN	8.92 -10.97	-22.13 -18.14	0.29 -0.87	-0.34 0.11	-7.14 -0.46	0.25 2.34
8 COS 8 SIN	1.63 6.42	87.75 4.97	-3.58 -1.22	-0.49 -0.06	44.15 -2.06	-1.74 -1.61
9 COS 9 SIN	-1.14 1.87	35.24 7.47	-0.75 2.59	-0.18 -0.43	40.59 -6.39	-2.39 -0.14
10 COS 10 SIN	2.15 2.38	92.98 -61.13	-1.95 -14.02	0.86 -0.11	20.22 -1.55	0.08 2.13
11 COS 11 SIN	3.42 0.48	-25.64 25.01	-2.25 -7.32	-0.77 0.17	2.10 0.66	3.40 -4.23
12 COS 12 SIN	1.31 0.07	54.95 -30.06	-2.52 -3.44	1.02 0.26	15.77 -10.08	1.01 0.69

D5

Used to Calculate Local Transfer Matrix

Rotor RPM = 1100

LSE Batch Size = 36

Forcing Amplitude Limit  $\pm 0.17^\circ$  Root Pitch

FFT COEFFICIENTS FOR DATA POINT 33										FFT COEFFICIENTS FOR DATA POINT 34									
HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL						
0C	584.91	-11.43	-19.19	-0.58	-25.16	-69.57	DC	597.24	-13.48	-15.33	-0.87	-28.77	-66.11	0.00	1.19	1.19	0.00	4.37	
1 COS	-5.35	-5.39	-5.07	0.01	13.58	1.33	1 COS	-6.98	-5.30	-1.24	1.00	11.55	-8.22	0.00	1.19	1.19	0.00	4.37	
1 SIN	-19.65	3.24	0.12	1.60	-7.35	-0.35	1 SIN	-20.10	6.24	1.76	0.09	0.09	-8.22	0.00	1.19	1.19	0.00	4.37	
2 COS	-15.78	15.55	1.32	-0.27	3.06	0.72	2 COS	-15.09	6.00	1.32	-0.17	-2.64	1.97	0.35	1.19	1.19	0.35	0.35	
2 SIN	3.23	-4.72	-1.46	-0.12	-8.85	-0.73	3 COS	-13.03	-32.54	3.41	-0.19	-5.42	-3.29	-2.61	1.19	1.19	0.35	0.35	
3 COS	9.20	-37.89	2.90	-0.23	-6.36	-5.83	3 SIN	1.56	16.69	0.31	0.44	8.57	-2.61	-2.61	1.19	1.19	0.35	0.35	
3 SIN	-1.64	10.20	5.56	-0.60	11.36	-0.05	4 COS	-13.02	-32.09	8.80	1.02	21.26	-6.68	-6.68	1.19	1.19	0.35	0.35	
4 COS	-3.12	-33.27	-13.52	0.10	32.55	-4.21	4 SIN	44.30	5.45	-2.79	0.09	-14.32	6.01	6.01	1.19	1.19	0.35	0.35	
4 SIN	7.59	-43.94	2.96	-0.08	-6.84	0.47	5 COS	2.85	46.65	33.30	-0.26	47.47	-1.53	-1.53	1.19	1.19	0.35	0.35	
5 COS	8.18	43.16	20.88	0.93	38.88	-2.43	5 SIN	4.40	-12.91	-39.50	-0.33	-26.79	1.41	1.41	1.19	1.19	0.35	0.35	
5 SIN	2.72	8.48	-38.08	-0.49	-11.28	1.83	6 COS	-7.28	15.58	-8.31	-0.18	-4.09	3.65	3.65	1.19	1.19	0.35	0.35	
6 COS	-2.97	32.12	8.42	-0.64	15.44	1.02	6 SIN	7.62	-9.31	-3.55	1.33	1.01	-6.21	-6.21	1.19	1.19	0.35	0.35	
6 SIN	4.05	18.33	-4.60	0.23	-1.63	-0.70	7 COS	-2.69	-46.77	-7.93	-0.05	-10.61	1.01	1.01	1.19	1.19	0.35	0.35	
7 COS	8.92	-22.13	0.29	-0.34	-7.14	0.25	7 SIN	-5.15	-15.30	0.13	0.12	-3.96	1.25	1.25	1.19	1.19	0.35	0.35	
7 SIN	-10.97	-18.14	-0.87	0.11	-0.46	2.34	8 COS	5.11	-19.09	-11.04	-0.07	-0.46	0.57	0.57	1.19	1.19	0.35	0.35	
8 COS	1.63	87.75	-3.58	-0.49	44.15	-1.74	8 SIN	7.80	-50.96	4.50	0.10	-8.76	2.88	2.88	1.19	1.19	0.35	0.35	
8 SIN	6.42	4.97	-1.22	-0.06	-2.06	-1.61	9 COS	-1.56	46.40	-1.89	0.02	29.93	-0.57	-0.57	1.19	1.19	0.35	0.35	
9 COS	-1.14	35.24	-0.75	-0.18	40.59	-2.39	9 SIN	2.60	14.55	3.36	0.01	-7.99	2.47	2.47	1.19	1.19	0.35	0.35	
10 COS	2.15	92.98	-1.95	0.86	20.22	0.08	10 COS	3.06	18.41	-8.64	0.31	4.59	0.54	0.54	1.19	1.19	0.35	0.35	
10 SIN	2.38	-61.13	-14.02	-0.11	-1.55	2.13	10 SIN	1.70	-39.67	0.03	-0.52	-5.06	-0.86	-0.86	1.19	1.19	0.35	0.35	
11 COS	3.42	-25.64	-2.25	-0.77	2.10	3.40	11 COS	1.98	41.52	15.95	0.18	1.88	0.74	0.74	1.19	1.19	0.35	0.35	
11 SIN	0.48	25.01	-7.32	0.17	0.66	-4.23	11 SIN	0.01	32.17	-17.96	0.25	-14.25	-3.79	-3.79	1.19	1.19	0.35	0.35	
12 COS	1.31	54.95	-2.52	1.02	15.77	1.01	12 COS	-0.15	-54.91	12.61	-0.55	12.00	3.74	3.74	1.19	1.19	0.35	0.35	
12 SIN	0.07	-30.06	-3.44	0.26	-10.08	0.69	12 SIN	7.05	-28.94	7.05	-0.64	-5.33	-5.33	-5.33	1.19	1.19	0.35	0.35	

## FFT COEFFICIENTS FOR DATA POINT

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HARMONIC	ACC1	ACC2	ACC3	PLL1	ACCS	N2BL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACCS	N2BL
0 NC	549.72 0.00	-12.61 0.00	-18.13 0.00	-0.20 0.00	-26.37 0.00	-62.63 0.00	NC	561.71 0.00	-9.88 0.00	-16.80 0.00	0.15 0.00	-26.66 0.00	-73.81 0.00
1 COS	-8.15 1 SIN	-5.56 4.28	-3.51 -0.06	0.25 0.62	12.27 -10.09	2.44 4.18	1 COS	-5.10 1 SIN	-2.24 4.25	-1.77 -1.54	0.66 0.21	14.03 -9.26	-0.32 0.61
2 COS	-10.75 2 SIN	7.49 -0.19	0.21 1.81	-0.53 -0.16	0.00 -5.14	2.04 2.44	2 COS	-10.42 2 SIN	11.80 0.46	-0.89 0.45	0.41 0.24	-3.23 -6.48	-2.45 2.20
3 COS	5.59 3 SIN	-23.99 28.96	3.78 3.95	-0.12 -0.22	-1.07 12.98	-3.00 2.26	3 COS	-7.90 3 SIN	-32.91 28.31	3.15 1.21	0.05 -0.11	-4.63 11.79	-3.63 -0.95
4 COS	0.59 4 SIN	-14.67 5.21	2.47 -0.07	0.00 0.26	11.60 -22.64	2.19 6.04	4 COS	-12.73 4 SIN	-15.64 12.64	4.52 -0.41	-0.02 0.51	9.77 -23.69	-4.74 0.83
5 COS	-5.08 5 SIN	43.67 -13.77	19.41 -31.93	-0.08 0.07	41.49 -20.11	-5.15 0.42	5 COS	2.12 5 SIN	39.08 0.25	18.17 -12.00	0.24 -0.53	37.11 -20.52	-3.04 1.24
6 COS	4.43 6 SIN	9.95 7.00	4.24 -11.75	-0.10 0.33	-2.29 -4.87	-0.86 -0.90	6 COS	-9.54 6 SIN	7.12 13.73	7.36 6.46	-0.41 3.68	5.97 0.96	0.92 1.50
7 COS	0.20 7 SIN	-50.08 -9.39	1.47 -0.49	0.87 -0.39	-8.23 -0.84	-1.33 0.00	7 COS	-3.90 7 SIN	-51.29 13.10	1.49 4.75	-0.45 -0.19	-3.24 1.50	-1.15 -1.21
8 COS	9.26 8 SIN	-25.10 -13.81	2.11 2.25	-0.06 -0.45	-5.59 3.58	-2.34 4.71	8 COS	4.47 8 SIN	-2.95 5.55	6.60 7.35	-0.01 -0.02	-0.58 6.15	1.13 -2.50
9 COS	-4.50 9 SIN	-0.41 -2.73	-6.83 -3.29	-0.01 0.29	13.82 9.76	3.10 -2.62	9 COS	-5.65 9 SIN	45.21 42.33	1.75 -0.17	1.36 0.00	17.78 2.52	-2.27 -0.74
10 COS	-3.00 10 SIN	48.87 -4.87	-3.40 -1.16	-0.38 -0.17	9.41 -12.59	-0.85 -4.16	10 COS	2.53 10 SIN	71.18 -19.01	0.52 -7.66	-0.60 -0.08	33.54 -10.50	-1.75 2.16
11 COS	-0.23 11 SIN	86.83 -1.59	0.11 21.77	-0.57 -17.71	7.93 -8.93	-2.31 -3.67	11 COS	0.94 11 SIN	59.25 4.59	18.20 11.86	0.52 -20.57	27.79 0.46	-4.13 -13.63
12 COS	0.14 12 SIN	-59.35 33.37	13.70 -6.84	0.37 -0.69	6.76 -9.31	3.55 0.42	12 COS	-1.87 12 SIN	-43.03 -16.92	2.25 4.93	0.29 -0.48	6.23 -8.01	-0.56 -3.17

## FFT COEFFICIENTS FOR DATA POINT

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FFT COEFFICIENTS FOR DATA POINT													
HARMONIC	ACC1	ACC2	ACC3	PLL1	ACCS	N2BL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACCS	N2BL
0 NC	549.72 0.00	-12.61 0.00	-18.13 0.00	-0.20 0.00	-26.37 0.00	-62.63 0.00	NC	561.71 0.00	-9.88 0.00	-16.80 0.00	0.15 0.00	-26.66 0.00	-73.81 0.00
1 COS	-8.15 1 SIN	-5.56 4.28	-3.51 -0.06	0.25 0.62	12.27 -10.09	2.44 4.18	1 COS	-5.10 1 SIN	-2.24 4.25	-1.77 -1.54	0.66 0.21	14.03 -9.26	-0.32 0.61
2 COS	-10.75 2 SIN	7.49 -0.19	0.21 1.81	-0.53 -0.16	0.00 -5.14	2.04 2.44	2 COS	-10.42 2 SIN	11.80 0.46	-0.89 0.45	0.41 0.24	-3.23 -6.48	-2.45 2.20
3 COS	5.59 3 SIN	-23.99 28.96	3.78 3.95	-0.12 -0.22	-1.07 12.98	-3.00 2.26	3 COS	-7.90 3 SIN	-32.91 28.31	3.15 1.21	0.05 -0.11	-4.63 11.79	-3.63 -0.95
4 COS	0.59 4 SIN	-14.67 5.21	2.47 -0.07	0.00 0.26	11.60 -22.64	2.19 6.04	4 COS	-12.73 4 SIN	-15.64 12.64	4.52 -0.41	-0.02 0.51	9.77 -23.69	-4.74 0.83
5 COS	-5.08 5 SIN	43.67 -13.77	19.41 -31.93	-0.08 0.07	41.49 -20.11	-5.15 0.42	5 COS	2.12 5 SIN	39.08 0.25	18.17 -12.00	0.24 -0.53	37.11 -20.52	-3.04 1.24
6 COS	4.43 6 SIN	9.95 7.00	4.24 -11.75	-0.10 0.33	-2.29 -4.87	-0.86 -0.90	6 COS	-9.54 6 SIN	7.12 13.73	7.36 6.46	-0.41 3.68	5.97 0.96	0.92 1.50
7 COS	0.20 7 SIN	-50.08 -9.39	1.47 -0.49	0.87 -0.39	-8.23 -0.84	-1.33 0.00	7 COS	-3.90 7 SIN	-51.29 13.10	1.49 4.75	-0.45 -0.19	-3.24 1.50	-1.15 -1.21
8 COS	9.26 8 SIN	-25.10 -13.81	2.11 2.25	-0.06 -0.45	-5.59 3.58	-2.34 4.71	8 COS	4.47 8 SIN	-2.95 5.55	6.60 7.35	-0.01 -0.02	-0.58 6.15	1.13 -2.50
9 COS	-4.50 9 SIN	-0.41 -2.73	-6.83 -3.29	-0.01 0.29	13.82 9.76	3.10 -2.62	9 COS	-5.65 9 SIN	45.21 42.33	1.75 -0.17	1.36 0.00	17.78 2.52	-2.27 -0.74
10 COS	-3.00 10 SIN	48.87 -4.87	-3.40 -1.16	-0.38 -0.17	9.41 -12.59	-0.85 -4.16	10 COS	2.53 10 SIN	71.18 -19.01	0.52 -7.66	-0.60 -0.08	33.54 -10.50	-1.75 2.16
11 COS	-0.23 11 SIN	86.83 -1.59	0.11 21.77	-0.57 -17.71	7.93 -8.93	-2.31 -3.67	11 COS	0.94 11 SIN	59.25 4.59	18.20 11.86	0.52 -20.57	27.79 0.46	-4.13 -13.63
12 COS	0.14 12 SIN	-59.35 33.37	13.70 -6.84	0.37 -0.69	6.76 -9.31	3.55 0.42	12 COS	-1.87 12 SIN	-43.03 -16.92	2.25 4.93	0.29 -0.48	6.23 -8.01	-0.56 -3.17

## FFT COEFFICIENTS FOR DATA POINT

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## FFT COEFFICIENTS FOR DATA POINT

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HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2RL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL
DC	557.27	-11.69	-16.23	-0.04	-28.05	-73.01	DC	594.60	-12.75	-13.78	-1.41	-26.03	-67.08
1 COS	0.00	0.00	0.00	0.00	0.00	0.00	1 SIN	-3.61	-3.54	2.24	0.82	17.43	-0.37
1 SIN	-19.92	-3.68	-1.33	0.54	13.90	-1.53	1 SIN	-18.65	4.51	0.28	0.36	-9.61	1.53
2 COS	-9.78	3.50	-4.03	0.07	-4.23	2.64	2 SIN	-5.56	-2.04	-2.51	-0.17	-6.41	0.08
2 SIN	4.32	-4.37	-0.40	0.18	-8.65	0.60	2 SIN	6.27	-5.74	-0.52	0.24	-8.72	1.25
3 COS	1.93	-28.02	1.48	-0.38	-7.82	-3.72	3 COS	11.85	-31.68	5.23	-0.19	-6.48	-4.77
3 SIN	-1.44	21.65	3.78	-0.09	9.68	2.06	3 SIN	2.80	15.54	-0.53	-0.07	9.02	-1.51
4 COS	47.37	44.05	-4.79	1.10	-14.54	0.02	4 COS	9.83	4.59	-5.77	0.13	3.60	-1.43
4 SIN	42.77	-8.20	-12.49	0.63	-7.89	0.62	4 SIN	10.84	2.84	-3.34	0.29	-8.41	1.85
5 COS	9.48	24.08	20.83	-0.85	30.53	-2.90	5 COS	11.62	31.52	21.69	-0.17	39.18	-2.42
5 SIN	-1.64	3.84	-46.41	0.53	-12.20	-3.32	5 SIN	-2.46	-25.98	-42.90	0.59	-42.47	2.14
6 COS	-4.80	10.67	2.28	-0.26	9.29	-1.13	6 COS	-0.31	29.61	-4.82	0.07	10.23	-3.44
6 SIN	14.70	30.46	9.39	0.96	12.84	-1.71	6 SIN	0.86	25.96	5.93	0.16	14.42	-0.40
7 COS	2.13	-30.51	0.68	0.34	-9.00	0.15	7 COS	-6.23	-27.28	0.92	-0.46	1.85	0.42
7 SIN	-1.42	2.40	8.68	0.56	4.19	2.30	7 SIN	-8.49	17.14	2.22	0.08	4.45	2.32
8 COS	12.89	-59.49	-2.03	-0.01	-16.70	-2.52	8 COS	7.08	-8.42	-6.42	-0.28	7.85	-0.08
8 SIN	-1.08	-18.74	11.63	0.21	-16.74	2.40	8 SIN	5.31	-3.75	8.90	-0.13	0.80	-3.41
9 COS	-4.42	-10.62	-0.60	-0.37	0.89	0.42	9 COS	-2.62	10.49	-7.62	0.01	17.70	0.81
9 SIN	7.40	5.01	-0.45	-0.08	8.82	-2.63	9 SIN	1.15	-21.34	7.18	-0.36	-26.44	0.32
10 COS	-1.26	23.01	-9.79	-0.72	2.56	1.66	10 COS	1.47	49.68	-12.14	0.16	9.50	0.56
10 SIN	-0.03	-2.91	-2.20	-0.36	4.39	0.55	10 SIN	1.43	-77.35	-3.93	-0.49	-24.52	-0.63
11 COS	-1.74	27.71	-4.37	0.09	24.89	-3.29	11 COS	-1.63	26.27	-18.20	0.12	-31.96	-0.37
11 SIN	-0.81	-43.18	-5.16	-0.82	15.90	7.07	11 SIN	-2.42	-53.34	-13.03	0.02	-17.91	0.15
12 COS	-0.05	-7.38	7.64	-0.33	-0.78	0.73	12 COS	-0.71	-8.30	0.56	-0.49	15.57	0.36
12 SIN	0.73	46.19	-15.30	0.00	-41.73	-0.16	12 SIN	0.42	-50.48	3.92	-0.18	-7.61	2.50

## FFT COEFFICIENTS FOR DATA POINT

39

## FFT COEFFICIENTS FOR DATA POINT

39

HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL
DC	587.46 0.00	-12.46 0.00	-14.97 0.00	0.05 0.00	-24.83 0.00	-65.64 0.00	DC	582.73 0.00	-12.46 0.00	-13.68 0.00	0.87 0.00	-27.26 0.00	-82.34 0.00
1 COS 1 SIN	-5.32 -18.91	-2.33 6.51	1.09 0.91	0.37 0.93	16.98 -6.30	-1.35 2.43	1 COS 1 SIN	-3.84 -21.27	-1.58 4.48	2.26 0.62	0.00 -0.09	14.02 -11.23	-0.20 4.00
2 COS 2 SIN	-11.64 -3.66	1.09 -6.17	-4.34 -3.29	0.32 0.72	-2.92 -11.02	0.98 -4.27	2 COS 2 SIN	-4.39 2.11	-5.07 -9.17	-3.25 -2.64	-0.14 -0.32	-3.91 -7.54	-2.06 -1.01
3 COS 3 SIN	8.35 -0.89	-34.08 11.75	1.76 1.70	0.00 -0.24	-2.77 8.12	-1.14 -1.79	3 COS 3 SIN	18.16 -4.18	-33.05 26.33	5.38 -1.11	-0.07 -0.47	-7.86 8.20	-5.15 -3.06
4 COS 4 SIN	7.14 -8.00	27.51 -27.75	-7.09 -0.66	0.34 0.49	3.19 26.34	2.59 -4.33	4 COS 4 SIN	2.65 30.40	-2.82 -12.64	-7.38 -0.91	0.63 0.72	34.77 -25.73	-0.37 3.56
5 COS 5 SIN	-1.39 2.67	30.37 5.72	19.67 -37.30	0.70 -0.30	40.40 -6.83	-1.52 2.33	5 COS 5 SIN	-1.65 0.92	69.08 -42.19	21.61 -50.74	0.33 0.60	54.00 -45.12	-2.31 -3.50
6 COS 6 SIN	-6.86 4.03	35.37 14.96	4.63 -8.82	0.08 0.30	9.16 -3.47	2.06 4.44	6 COS 6 SIN	-3.00 -2.77	45.39 13.38	-5.10 3.60	0.08 0.06	15.41 11.24	0.27 -0.14
7 COS 7 SIN	-0.04 1.02	9.40 1.01	0.28 -2.57	0.40 -0.33	-1.40 3.37	2.81 -0.72	7 COS 7 SIN	-2.50 -4.99	-29.91 -20.12	-6.20 3.37	1.00 -0.04	-2.71 -7.70	-0.09 4.05
8 COS 8 SIN	3.40 -1.39	-25.27 51.26	7.54 8.98	0.37 0.72	-18.55 21.14	-2.27 -3.90	8 COS 8 SIN	4.53 3.60	-16.74 -67.88	-13.94 7.82	0.51 -0.03	-5.57 -28.10	-1.28 -1.13
9 COS 9 SIN	1.41 6.91	10.68 23.91	2.52 -1.46	-0.10 -0.57	-0.82 17.06	-2.00 3.20	9 COS 9 SIN	-1.93 -1.16	-17.84 -3.32	-1.29 4.98	0.37 -0.32	2.32 -23.13	4.89 -2.78
10 COS 10 SIN	-2.68 -1.42	19.47 21.85	-10.94 -2.93	0.05 -0.68	33.44 14.19	5.76 5.85	10 COS 10 SIN	1.21 1.58	81.62 -55.74	-9.35 -16.34	-0.43 -0.16	35.22 -12.75	-3.92 1.23
11 COS 11 SIN	-0.43 -5.38	-24.33 -38.17	-17.06 1.31	0.61 0.23	-13.75 5.38	-1.64 -2.27	11 COS 11 SIN	-0.59 -3.23	19.85 -3.84	-13.88 -17.31	0.03 0.62	-15.49 -1.17	3.57 -1.60
12 COS 12 SIN	3.05 -2.10	20.14 -23.60	-4.18 -2.18	0.35 -0.10	5.73 0.06	-1.91 -3.79	12 COS 12 SIN	0.16 -1.95	-22.93 -35.60	0.72 3.97	0.15 -0.44	-8.80 -7.30	5.66 -0.02

41 FFT COEFFICIENTS FOR DATA POINT

FFT COEFFICIENTS FOR DATA POINT 41										FFT COEFFICIENTS FOR DATA POINT 42									
HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2RL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2RL						
DC	599.65 0.00	-10.52 0.00	-13.41 0.00	-0.37 0.00	-28.28 0.00	-77.72 0.00	DC	591.69 0.00	-11.55 0.00	-16.25 0.00	2.18 0.00	-29.15 0.00	-67.31 0.00						
1 COS 1 SIN	-7.44 -20.47	-0.63 4.00	2.30 1.07	1.29 -0.14	14.12 7.17	3.40 4.35	1 COS 1 SIN	-7.92 -21.29	-3.38 2.06	-1.33 -1.51	-0.39 -0.49	11.11 -11.55	1.44 3.76						
2 COS 2 SIN	-9.90 6.34	2.86 -6.15	-2.58 -1.33	0.11 0.43	-5.38 -7.29	2.53 -3.99	2 COS 2 SIN	-2.51 8.61	2.44 1.46	-2.29 -0.39	0.64 -0.39	-7.03 -2.90	-0.12 1.36						
3 COS 3 SIN	1.24 -6.68	-23.79 9.53	3.73 3.80	-0.19 -0.39	-7.59 8.73	-3.28 1.65	3 COS 3 SIN	-6.26 -14.54	-12.06 25.90	0.23 2.83	0.64 -0.71	-6.76 5.67	1.19 3.10						
4 COS 4 SIN	25.70 30.66	-6.76 -7.29	-0.37 -6.40	0.27 0.04	0.97 -6.82	-7.07 1.38	4 COS 4 SIN	28.45 13.06	32.70 -32.82	2.88 -1.89	-0.06 -0.13	-7.46 -2.45	0.21 1.65						
5 COS 5 SIN	-4.01 6.51	45.97 -14.21	27.06 -32.18	-0.92 0.11	55.90 -28.24	-3.92 1.63	5 COS 5 SIN	5.97 20.93	-3.00 -4.58	38.12 -40.52	0.30 -0.14	24.60 -22.41	-4.31 -1.88						
6 COS 6 SIN	4.48 -0.67	15.04 21.17	-7.00 -7.11	0.26 -0.71	-5.41 3.07	2.72 -1.07	6 COS 6 SIN	-7.36 -4.20	-7.08 6.43	-7.59 4.17	0.70 -0.18	-4.07 10.80	0.86 -2.20						
7 COS 7 SIN	-1.78 -1.22	-31.21 -14.79	-4.56 -2.64	0.02 -0.51	-9.98 -9.69	0.06 4.56	7 COS 7 SIN	1.54 -0.83	-0.34 5.77	-1.07 3.41	-0.09 0.32	3.72 6.98	3.49 -1.55						
8 COS 8 SIN	3.92 2.18	-26.45 -70.75	-10.28 -2.83	0.12 0.22	1.80 -22.62	-0.79 -0.70	8 COS 8 SIN	7.55 3.64	32.84 6.09	-3.23 -3.51	0.51 0.47	22.30 4.71	0.65 4.19						
9 COS 9 SIN	-8.16 1.25	-1.53 -3.66	-7.12 -2.75	-0.48 -0.31	10.80 5.71	1.51 -3.56	9 COS 9 SIN	0.87 0.60	1.85 -2.92	-2.85 3.30	0.13 -0.56	-0.21 1.99	-1.93 1.33						
10 COS 10 SIN	1.50 -0.43	66.05 -38.47	-2.29 -6.41	0.18 0.39	10.19 -19.44	-0.17 -2.45	10 COS 10 SIN	-0.57 1.03	-26.92 20.95	-23.76 -2.86	0.76 0.52	14.97 21.42	-3.34 3.63						
11 COS 11 SIN	1.04 1.01	31.87 -46.72	8.41 -15.78	0.09 0.99	12.14 -14.00	-0.04 3.80	11 COS 11 SIN	0.50 -3.21	-17.78 10.12	-3.08 -1.43	-0.29 -0.27	-19.19 3.39	2.94 1.91						
12 COS 12 SIN	-0.07 -2.02	-9.47 -6.55	1.57 -2.83	-1.28 -0.13	-3.33 -11.21	2.27 1.96	12 COS 12 SIN	1.04 0.98	-50.03 -16.43	8.73 4.22	0.04 0.19	9.75 -11.11	0.37 -1.03						

D10

FFT COEFFICIENTS FOR DATA POINT 43						FFT COEFFICIENTS FOR DATA POINT 44							
HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2RL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2RL
DC	583.59	-13.63	-17.07	-0.09	-25.30	-0.41	DC	484.75	-14.91	-13.36	-0.56	-28.68	-74.32
1 COS 1 SIN	-10.05	-3.50	-2.26	-0.07	10.62	2.16	1 COS 1 SIN	-3.90	-6.64	1.87	0.10	10.53	-1.15
2 COS 2 SIN	-10.48	1.19	-2.73	-0.27	1.01	2.66	2 COS 2 SIN	-9.78	-1.21	2.74	-0.06	-1.84	2.71
3 COS 3 SIN	-9.64	-37.65	0.42	-0.65	-11.41	-7.99	3 COS 3 SIN	-6.76	-46.48	8.85	-0.07	-11.57	-3.88
4 COS 4 SIN	27.35	-6.18	-13.04	-0.63	42.41	-4.51	4 COS 4 SIN	10.77	1.53	-11.74	-0.42	27.44	1.29
5 COS 5 SIN	-9.76	56.71	18.86	-0.05	45.42	-2.51	5 COS 5 SIN	-3.13	37.62	22.39	0.41	43.62	2.51
6 COS 6 SIN	-6.93	33.12	4.83	0.20	10.06	0.25	6 COS 6 SIN	-7.97	36.25	-3.31	-0.36	15.74	1.02
7 COS 7 SIN	-2.40	-35.44	-0.61	0.32	-8.64	1.54	7 COS 7 SIN	-5.83	3.55	3.08	-0.66	15.11	1.73
8 COS 8 SIN	3.00	-6.43	-6.92	0.68	-9.21	-5.13	8 COS 8 SIN	-1.02	35.14	-7.56	-0.67	-1.91	2.52
9 COS 9 SIN	-8.61	24.83	-8.11	0.82	17.15	1.32	9 COS 9 SIN	2.71	-42.04	2.38	-0.03	-20.46	-1.48
10 COS 10 SIN	1.99	46.45	-11.70	-0.08	26.56	2.93	10 COS 10 SIN	2.68	-40.75	-16.72	-0.32	10.32	-2.69
11 COS 11 SIN	-1.04	9.58	-13.84	0.11	-18.79	-1.42	11 COS 11 SIN	-1.27	-20.33	-15.98	0.32	-3.66	0.07
12 COS 12 SIN	-1.11	-38.64	-0.61	0.42	-19.25	-1.02	12 COS 12 SIN	-1.47	-22.02	3.08	0.22	-6.06	-4.29

D11

OF POOR

## FFT COEFFICIENTS FOR DATA POINT

45

## FFT COEFFICIENTS FOR DATA POINT

46

HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL
DC	484.74	-16.05	-17.51	-1.16	-30.00	-69.75	DC	570.92	-14.68	-18.80	-0.61	-27.25	-71.48
1 COS	0.00	0.00	0.00	0.00	0.00	0.00	1 SIN	0.00	0.00	0.00	0.00	0.00	0.00
1 SIN	-21.06	4.83	-3.44	1.35	10.18	-3.44	1 COS	-4.00	-6.76	-4.49	0.20	11.01	1.49
2 COS	-12.57	4.92	0.78	0.05	-3.35	-1.16	2 SIN	-6.32	3.16	0.07	-0.23	0.80	3.02
2 SIN	4.78	-9.60	-5.09	0.20	-8.48	-0.21	2 COS	0.21	-8.13	-4.20	0.00	-6.68	0.16
3 COS	0.22	-24.15	5.21	-0.77	-2.18	-1.41	3 SIN	16.11	-40.72	3.25	-0.58	-6.20	-3.36
3 SIN	-8.07	14.29	-0.18	-0.04	9.62	-0.92	3 COS	-10.58	22.49	1.76	-0.35	11.74	-5.69
4 COS	20.42	-16.24	-0.10	-0.16	-13.77	0.59	4 SIN	16.76	-1.48	-11.95	0.84	26.94	0.98
4 SIN	43.13	22.74	-5.46	0.56	-22.75	2.78	4 COS	29.18	-25.66	3.16	-0.16	-14.31	-0.77
5 COS	0.36	27.28	17.79	-1.07	29.43	-0.95	5 SIN	-17.12	58.68	16.19	-0.06	35.81	-0.38
5 SIN	-7.67	-38.80	-44.56	-0.43	-38.43	4.40	5 COS	4.97	-13.80	-41.49	0.18	-22.28	1.66
6 COS	-3.65	33.92	1.49	-0.25	15.80	-1.60	6 SIN	2.55	24.97	5.40	0.18	2.37	-0.39
6 SIN	3.10	12.26	7.29	0.13	13.08	-0.57	6 COS	4.20	2.99	-7.83	0.29	-7.46	0.47
7 COS	-7.58	-23.09	-0.49	0.55	-3.74	-1.73	7 SIN	-5.88	-7.82	1.16	0.11	1.17	-0.59
7 SIN	-4.50	32.97	4.76	-0.09	8.33	1.41	7 COS	-6.26	-18.92	-2.71	-0.68	-3.37	2.41
8 COS	7.17	-32.73	4.56	0.14	5.97	-4.34	8 SIN	4.39	18.01	0.56	0.45	2.97	-0.74
8 SIN	-3.70	39.03	4.98	0.51	22.37	1.40	8 COS	4.31	-24.03	-0.14	0.17	0.09	2.49
9 COS	-0.63	-0.77	0.22	0.76	0.96	-0.52	9 SIN	-0.64	36.14	-4.53	0.17	15.77	-0.43
9 SIN	2.68	-8.05	3.93	0.09	4.71	-0.04	9 COS	4.37	-13.51	-0.23	-0.54	-11.35	1.71
10 COS	1.51	50.59	-5.30	0.24	-4.41	-2.31	10 SIN	-1.40	50.91	-11.92	0.14	28.60	1.12
10 SIN	0.65	-49.94	4.04	-0.27	-25.87	2.56	10 COS	1.02	-48.56	-12.65	0.47	-19.75	-6.29
11 COS	-1.66	61.00	0.29	-0.23	12.81	0.72	11 SIN	-1.49	-3.22	-8.17	-0.09	-27.87	6.24
11 SIN	2.44	-40.71	-3.75	-0.42	-11.66	6.57	11 COS	-2.27	-3.13	-2.70	0.58	-20.47	-7.84
12 COS	-1.63	-12.95	11.28	-0.39	11.78	-0.72	12 SIN	-0.41	-17.53	6.84	-0.14	17.27	1.39
12 SIN	-0.42	31.89	-11.19	0.22	-19.45	-3.21	12 COS	-0.87	-27.18	3.01	-0.07	-4.16	-0.44

D12

## FFT COEFFICIENTS FOR DATA POINT

47

## FFT COEFFICIENTS FOR DATA POINT

48

HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL
DC	561.85 0.00	-13.92 0.00	-13.85 0.00	-0.27 0.00	-33.43 0.00	-65.74 0.00	DC	568.30 0.00	-14.76 0.00	-14.71 0.00	-1.80 0.00	-32.79 0.00	-64.39 0.00
1 COS 1 SIN	-5.44 -21.08	-5.19 4.66	1.22 2.03	0.12 -0.19	7.97 -6.53	1.62 -0.59	1 COS 1 SIN	-4.62 -20.78	-6.27 4.15	0.94 1.60	0.35 1.57	10.14 -7.37	-3.39 2.54
2 COS 2 SIN	-11.14 -3.17	1.19 -7.12	-0.93 -3.86	-0.46 0.16	-6.41 -10.74	-2.25 3.28	2 COS 2 SIN	-12.67 3.92	0.28 -8.94	0.40 -4.19	0.46 -0.10	-7.95 -10.60	-1.59 -2.51
3 COS 3 SIN	2.85 -10.25	-25.29 13.30	4.04 0.92	-0.59 0.04	-8.67 6.22	1.65 1.47	3 COS 3 SIN	7.31 0.53	-32.47 0.71	5.19 1.49	-0.41 0.32	-13.50 8.35	-5.48 -2.83
4 COS 4 SIN	26.84 51.47	-8.57 -5.18	1.58 -10.00	0.09 1.42	9.14 -23.47	-0.60 2.84	4 COS 4 SIN	-4.01 29.03	1.79 -2.12	1.35 -6.89	-0.25 0.44	-8.52 -18.28	-1.70 4.47
5 COS 5 SIN	-3.28 1.57	48.87 -23.01	22.26 -47.44	-0.09 -0.57	46.49 -31.09	0.95 1.80	5 COS 5 SIN	15.73 7.39	31.56 -24.86	26.95 -42.55	-0.48 0.73	47.96 -41.92	-1.53 6.27
6 COS 6 SIN	-4.54 -7.83	19.33 -3.37	-5.23 2.73	0.74 0.51	1.94 7.04	1.32 -1.40	6 COS 6 SIN	-5.90 -0.65	30.22 20.00	-4.23 2.52	-0.36 0.56	10.64 8.83	-5.91 2.81
7 COS 7 SIN	-3.35 -8.96	-4.623 -1.51	-4.97 3.60	-0.22 0.13	-9.72 2.11	1.04 -2.71	7 COS 7 SIN	0.86 -10.06	-47.53 7.05	-4.90 2.76	-0.45 0.12	-14.91 4.52	1.46 1.44
8 COS 8 SIN	4.60 -1.57	-34.77 -43.56	-7.66 6.21	0.63 0.08	-3.78 -18.30	4.62 1.20	8 COS 8 SIN	4.51 6.72	0.61 -51.41	-9.19 2.22	-0.42 -0.09	10.62 -15.52	-1.05 -3.21
9 COS 9 SIN	-2.93 8.18	28.40 -12.30	-4.70 1.71	0.29 0.09	16.17 -10.30	-0.87 -2.09	9 COS 9 SIN	-2.62 -0.28	10.68 -1.50	-4.34 2.98	0.00 -0.70	28.85 -11.73	-1.44 0.75
10 COS 10 SIN	1.07 3.55	24.27 -36.49	-8.35 0.37	0.08 -0.28	-12.57 -16.62	4.35 0.38	10 COS 10 SIN	1.64 4.42	99.11 -34.42	-5.31 -12.01	-0.34 0.21	27.64 -18.89	-2.56 2.84
11 COS 11 SIN	0.26 -1.19	42.82 -10.85	-11.75 -22.85	0.93 0.32	-31.19 -14.69	-0.35 -1.78	11 COS 11 SIN	-0.15 -4.13	54.90 -20.89	-11.77 -19.46	0.24 -0.46	-3.12 -13.16	-0.51 1.80
12 COS 12 SIN	-2.00 -1.55	-28.30 -33.15	3.80 3.50	-0.59 -0.15	-15.65 -5.57	-1.63 0.34	12 COS 12 SIN	-1.21 1.08	-25.88 0.46	8.69 -3.24	0.04 -0.17	14.21 -3.62	-0.81 1.45

D13

## FFT COEFFICIENTS FOR DATA POINT

49

## FFT COEFFICIENTS FOR DATA POINT

50

HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL
0 IC	572.22	-15.66	-16.93	-2.13	-30.55	-68.95	0 IC	566.55	-13.47	-13.14	-1.10	-30.34	-68.91
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 COS 1 SIN	-7.39	-6.40	-2.48	0.77	12.80	-1.12	1 COS 1 SIN	-5.04	-3.05	2.11	0.54	9.04	-0.42
2.72	-17.90	-2.72	-1.40	1.01	-10.98	4.61	-19.02	4.04	1.83	0.31	-6.47	2.18	
2 COS 2 SIN	-9.48	1.21	0.86	0.13	-3.81	-2.72	2 COS 2 SIN	-12.05	4.25	-1.06	-0.20	-5.46	4.04
0.71	0.19	3.16	-0.72	-0.72	-6.53	-2.17	6.12	-7.40	-3.36	-0.95	-9.51	-2.91	
3 COS 3 SIN	-4.50	-19.44	4.26	-0.85	-6.37	-5.71	3 COS 3 SIN	-1.30	-20.91	4.88	0.23	-8.00	-1.51
-3.22	10.45	1.86	-0.32	8.93	-0.42	-0.42	-7.08	16.91	2.50	0.71	11.33	-0.66	
4 COS 4 SIN	5.09	20.95	0.79	0.01	4.54	-4.21	4 COS 4 SIN	54.33	-19.75	-6.17	0.31	5.59	-0.34
41.69	14.91	-7.31	0.06	-25.06	7.41	-0.41	34.01	-12.46	-6.16	0.29	-25.73	0.60	
5 COS 5 SIN	-1.04	10.31	25.94	0.16	26.92	-2.51	5 COS 5 SIN	-1.61	55.93	26.67	-0.16	53.07	-1.33
-3.79	-29.07	-38.82	0.34	-42.51	-0.51	-0.51	11.04	-18.23	-38.34	-0.97	-27.80	0.54	
6 COS 6 SIN	-5.84	19.29	-6.49	0.42	4.09	-1.82	6 COS 6 SIN	-1.10	16.46	-6.10	-0.27	-5.34	3.02
-8.29	20.10	6.40	0.00	12.47	-0.91	-0.91	-7.50	2.02	-7.92	0.60	-4.79	-2.81	
7 COS 7 SIN	-6.78	-35.76	-6.27	0.45	-10.60	2.41	7 COS 7 SIN	-7.14	-16.61	0.11	0.42	-0.13	0.92
-9.23	-6.20	4.96	-0.53	-1.28	-4.91	-0.41	-2.44	-8.19	0.18	-0.72	-8.78	0.12	
8 COS 8 SIN	2.47	-19.30	-15.68	-1.00	-0.08	1.09	8 COS 8 SIN	0.57	-4.60	-1.81	0.36	-0.45	-1.85
0.54	-57.31	-1.72	0.03	-20.36	3.42	-2.34	-7.34	-11.91	-8.62	0.08	-10.19	0.28	
9 COS 9 SIN	-5.67	-0.69	-5.33	0.57	6.09	3.36	9 COS 9 SIN	-0.86	12.02	-2.16	-1.18	-5.62	-0.32
3.28	15.80	2.29	-0.66	-11.49	3.50	4.57	-51.78	-1.60	0.13	-18.05	1.89		
10 COS 10 SIN	1.66	89.32	-5.29	-0.39	-3.78	0.88	10 COS 10 SIN	-1.82	61.34	-9.81	-0.05	19.20	1.11
2.89	-22.92	-4.87	0.38	-15.90	-2.32	-2.32	3.35	18.41	-7.24	-0.54	9.07	0.93	
11 COS 11 SIN	-0.62	49.74	-28.44	0.12	-33.10	-3.51	11 COS 11 SIN	3.79	-16.56	16.21	-0.16	14.80	-5.41
-3.09	-60.76	-23.65	0.19	-13.37	-5.71	-5.71	-0.86	-3.26	-6.04	-0.12	-9.27	1.17	
12 COS 12 SIN	-1.47	-35.10	12.10	-0.36	7.85	7.01	12 COS 12 SIN	-4.01	-5.22	-6.80	0.34	-2.80	1.23
-1.66	36.51	-6.12	-0.41	-9.01	1.48	-1.48	-1.63	-20.21	-1.14	0.17	-8.69	-7.38	

## FFT COEFFICIENTS FOR DATA POINT

51

## FFT COEFFICIENTS FOR DATA POINT

52

HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL
DC	592.39 0.00	-11.65 0.00	-12.41 0.00	-0.08 0.00	-25.66 0.00	-69.88 0.00	DC	608.12 0.00	-11.95 0.00	-13.92 0.00	-0.10 0.00	-30.04 0.00	-70.59 0.00
1 COS 1 SIN	-5.20 -19.24	-2.70 5.52	3.21 -0.04	0.70 0.57	14.45 -8.67	-2.51 5.46	1 COS 1 SIN	-5.64 -20.24	-3.86 6.22	0.90 1.63	1.21 0.63	11.94 -8.93	0.86 7.27
2 COS 2 SIN	-9.34 3.96	2.07 -2.18	-2.05 -2.87	0.15 -0.36	-0.57 1.79	3.82 -9.99	2 COS 2 SIN	-10.25 3.79	3.85 -7.33	0.25 -5.49	-0.09 -0.01	-4.25 -9.29	0.68 -1.46
3 COS 3 SIN	1.67 -3.44	-16.49 10.27	5.08 -1.89	0.69 0.08	3.51 6.92	-7.09 -2.83	3 COS 3 SIN	10.14 -7.37	-23.98 18.60	5.32 -1.29	0.39 0.32	-4.78 5.98	-7.39 -1.86
4 COS 4 SIN	33.62 32.97	8.31 44.47	6.99 -7.20	-0.17 -0.38	-24.89 -0.02	3.23 0.90	4 COS 4 SIN	12.43 36.40	-6.95 4.76	1.98 -0.64	0.02 0.16	5.93 -12.64	-1.63 2.22
5 COS 5 SIN	-4.23 -4.32	20.91 -31.87	27.93 -41.62	-0.12 -0.04	27.64 -35.48	-4.51 1.46	5 COS 5 SIN	-6.52 7.54	41.98 -36.53	26.75 -40.18	-0.08 0.02	42.52 -34.68	-1.00 0.24
6 COS 6 SIN	-8.12 -3.71	16.87 14.14	-5.84 3.58	-0.03 0.48	2.83 9.81	0.21 -5.33	6 COS 6 SIN	-0.70 4.40	22.79 5.73	-7.81 -0.73	0.43 0.04	2.37 9.93	-2.09 2.21
7 COS 7 SIN	-12.73 -1.14	-7.25 7.24	-2.80 3.17	-0.26 -0.12	2.91 -3.50	-4.94 1.67	7 COS 7 SIN	-4.75 -6.78	-20.27 3.63	-2.91 -1.74	-0.14 0.13	0.43 -4.72	4.72 -2.05
8 COS 8 SIN	5.09 2.41	6.19 12.65	-12.96 2.30	0.49 0.52	23.34 -3.87	-2.45 -1.13	8 COS 8 SIN	5.77 1.99	-15.12 36.06	6.45 3.72	0.41 0.17	-4.19 18.91	1.07 -2.16
9 COS 9 SIN	-0.22 0.28	-3.65 -37.26	-3.78 1.83	-0.21 -0.49	-1.06 -26.55	2.29 -2.10	9 COS 9 SIN	0.93 2.65	36.40 -19.09	-0.81 0.50	1.41 0.22	2.96 -20.00	-2.84 0.35
10 COS 10 SIN	3.12 0.86	7.17 -79.29	-12.16 -5.91	0.12 -0.50	-2.49 -25.36	-4.29 2.99	10 COS 10 SIN	0.35 1.34	67.69 -21.10	-12.25 -4.78	0.13 0.34	32.81 -9.54	0.73 2.29
11 COS 11 SIN	0.24 -4.05	18.75 -60.96	-31.78 -20.92	0.15 0.64	-16.61 0.88	-0.59 -2.24	11 COS 11 SIN	0.20 0.65	38.20 2.43	-0.82 -31.01	-0.17 0.02	-15.63 -35.47	0.98 -3.35
12 COS 12 SIN	1.75 0.22	30.90 38.00	2.34 -12.59	-0.55 -0.40	4.23 8.64	-1.50 0.86	12 COS 12 SIN	-0.49 -1.48	4.27 -15.74	4.78 -2.11	-0.53 0.49	11.32 -20.33	-3.21 3.63

## FFT COEFFICIENTS FOR DATA POINT

53

## FFT COEFFICIENTS FOR DATA POINT

54

HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL
DC	588.05 0.00	-11.77 0.00	-14.13 0.00	0.32 0.00	-31.99 0.00	-74.91 0.00	DC	588.26 0.00	-15.69 0.00	-20.13 0.00	-0.95 0.00	-28.85 0.00	-70.20 0.00
1 COS 1 SIN	-4.35 -20.14	-1.26 4.73	-1.12 -0.44	1.17 1.41	10.67 -7.16	2.23 1.98	1 COS 1 SIN	-4.10 -19.31	-7.22 4.51	-6.15 -0.13	-0.07 0.27	10.64 -11.62	-2.57 5.03
2 COS 2 SIN	-10.30 2.97	4.63 -5.41	-3.92 -2.41	0.05 0.02	-6.90 -11.18	-3.60 0.38	2 COS 2 SIN	-6.71 -0.70	0.05 -2.49	-2.08 0.90	0.04 0.07	2.27 -3.44	5.04 -1.35
3 COS 3 SIN	5.77 -1.36	-29.36 0.17	1.62 4.38	0.64 0.05	-13.32 4.60	-6.18 -3.30	3 COS 3 SIN	10.27 -16.14	-39.29 25.61	0.45 2.58	-0.50 -0.42	-6.65 10.83	-8.48 4.55
4 COS 4 SIN	40.74 10.88	38.83 -32.83	-3.75 -13.25	0.86 0.66	-17.79 1.35	-2.49 -1.02	4 COS 4 SIN	18.83 29.13	-5.99 -11.77	-11.70 4.51	0.29 -0.81	31.51 -34.35	2.33 0.72
5 COS 5 SIN	8.39 14.97	37.32 -2.29	26.65 -48.62	-0.63 1.04	47.56 -20.13	-3.26 2.34	5 COS 5 SIN	-12.27 9.41	49.70 -26.53	9.15 -40.98	0.00 0.13	27.94 -21.15	4.93 2.21
6 COS 6 SIN	-12.47 4.32	23.86 23.52	-5.21 4.25	0.58 -0.22	4.66 10.82	-2.79 4.33	6 COS 6 SIN	2.34 3.72	16.17 -2.10	6.96 -3.92	0.46 0.23	5.40 -6.66	1.36 -2.79
7 COS 7 SIN	-5.49 2.78	-23.50 -8.56	-9.78 5.72	0.34 0.04	-8.40 -2.24	-2.18 -0.95	7 COS 7 SIN	-9.61 -1.54	-22.55 -21.38	-0.52 0.69	-0.08 -0.18	-4.59 -7.02	1.97 1.68
8 COS 8 SIN	-0.14 2.84	27.18 -36.52	1.40 0.30	-0.60 0.71	1.75 -17.70	2.89 -0.35	8 COS 8 SIN	1.65 -4.15	-2.73 -18.30	-4.52 4.14	-0.17 -0.87	-0.22 -8.01	-1.09 -1.70
9 COS 9 SIN	-0.30 1.96	-7.49 -14.28	-0.73 0.18	-0.70 0.30	-19.92 6.97	1.05 -1.68	9 COS 9 SIN	1.11 8.30	19.64 -22.61	-5.37 0.79	0.50 -0.63	19.80 -8.50	-1.19 5.76
10 COS 10 SIN	-0.65 0.82	52.38 50.10	-6.14 2.61	0.43 1.01	16.26 13.25	-5.17 -1.71	10 COS 10 SIN	0.92 1.76	25.73 -28.75	-6.86 3.48	0.22 -0.70	5.22 -20.34	0.38 0.69
11 COS 11 SIN	-1.69 -4.43	-16.14 -88.19	-27.15 -9.66	-0.50 -0.31	2.38 13.89	0.76 -2.09	11 COS 11 SIN	0.14 -2.07	1.46 25.02	-11.23 -14.80	0.48 0.19	-36.30 -14.46	-0.44 -0.24
12 COS 12 SIN	2.60 1.16	69.16 5.93	-4.45 -8.54	0.90 -0.18	16.98 1.82	1.79 1.82	12 COS 12 SIN	-0.91 -0.55	-34.19 11.23	8.43 -5.35	-0.08 0.51	-1.39 -4.43	-0.50 -1.65

## FFT COEFFICIENTS FOR DATA POINT

55

HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2RL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	H2RL
0C	601.69 0.00	-14.21 0.00	-17.01 0.00	-0.41 0.00	-30.09 0.00	-74.34 0.00	HF	620.83 0.00	-14.11 0.00	-14.13 0.00	-0.58 0.00	-28.91 0.00	-70.46 0.00
1 COS 1 SIN	-9.63 -18.93	-5.32 1.71	-2.25 -1.67	0.54 -0.13	12.61 -8.91	0.36 -0.16	1 COS 1 SIN	-6.77 -21.03	-5.90 1.55	-0.38 -1.36	1.46 1.16	10.36 -7.82	-3.42 4.53
2 COS 2 SIN	-12.17 4.15	7.38 1.51	-2.36 0.78	0.05 0.00	-6.43 -3.44	0.32 -0.46	2 COS 2 SIN	-16.82 0.17	7.85 -4.56	0.71 1.62	-0.35 -0.23	-4.28 -7.69	3.17 4.24
3 COS 3 SIN	3.77 -9.11	-27.92 54.60	2.93 4.37	-0.45 0.50	-12.32 20.83	-0.19 -1.90	3 COS 3 SIN	-0.90 -5.07	-23.42 6.31	5.98 3.47	-0.64 -0.04	-5.90 10.21	-2.51 -8.34
4 COS 4 SIN	15.26 2.44	-22.30 -81.86	-14.28 5.99	-0.05 -0.66	18.87 -23.90	-3.90 1.44	4 COS 4 SIN	-1.38 -26.31	-18.05 -73.82	3.28 3.28	-0.32 -1.00	7.52 4.67	-6.34 -0.57
5 COS 5 SIN	9.72 7.28	23.40 -37.93	15.27 -38.39	0.45 0.43	26.87 -38.60	3.84 4.29	5 COS 5 SIN	7.21 17.47	6.21 1.49	28.31 -43.36	-0.46 -0.65	34.92 -27.40	-3.26 51.06
6 COS 6 SIN	1.49 2.13	-1.22 49.78	10.96 -2.04	-0.68 -1.11	1.99 3.29	1.12 1.39	6 COS 6 SIN	-8.11 12.41	27.25 5.84	-9.41 -4.28	-0.39 -0.27	-5.58 6.83	-0.34 -6.09
7 COS 7 SIN	1.51 -1.59	-10.91 12.95	4.95 -0.16	-0.29 -0.37	-8.99 4.61	-1.52 4.40	7 COS 7 SIN	0.91 -0.97	-4.14 -14.00	-3.73 -1.87	0.27 -0.67	-8.37 0.67	0.85 -0.10
8 COS 8 SIN	10.20 2.40	-0.32 37.49	1.71 15.27	-0.33 -0.06	3.77 -4.75	0.54 0.80	8 COS 8 SIN	-4.27 -4.61	54.25 32.57	2.56 -5.71	-0.27 0.55	26.63 19.77	7.79 -1.14
9 COS 9 SIN	-5.64 13.34	24.20 -8.14	-8.18 4.77	0.02 -0.48	26.84 -8.98	3.35 -1.32	9 COS 9 SIN	4.62 6.38	-15.05 -11.26	3.95 7.30	0.12 0.25	5.80 -2.58	-0.47 0.37
10 COS 10 SIN	0.65 5.40	2.34 26.94	-13.82 0.66	-0.34 0.81	4.80 7.80	-1.27 3.42	10 COS 10 SIN	3.50 -0.40	55.34 -90.56	-16.17 -16.84	0.01 0.35	41.05 -7.74	0.44 0.67
11 COS 11 SIN	2.00 -0.38	-7.63 22.26	-13.75 -17.32	-0.03 0.26	-10.48 14.91	-0.07 -1.61	11 COS 11 SIN	3.45 -0.55	-25.81 -4.14	10.94 -8.87	0.51 -0.05	-2.16 -13.19	1.44 -4.19
12 COS 12 SIN	1.97 0.52	63.13 -39.59	-10.05 -4.49	0.32 0.37	27.82 -12.93	-4.18 0.41	12 COS 12 SIN	-0.97 -1.99	-23.12 -22.84	0.13 2.32	0.23 -0.05	10.03 -14.26	3.08 0.16

## FFT COEFFICIENTS FOR DATA POINT

## FFT COEFFICIENTS FOR DATA POINT

58

HARMONIC	ACC1	ACC2	ACC3	FULL	NORM	HARMONIC	ACC1	ACC2	ACC3	FULL	ACCE	N2HL		
0C	6.29.73	-14.49	-17.53	-1.02	-32.00	-49.24	0.00	0.00	0.00	-1.41	-28.66	-64.47		
1 SIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
1 COS	-8.15	-7.03	-2.89	1.11	8.41	0.45	0.45	0.45	0.45	0.03	13.82	-3.43		
2 SIN	-0.04	-7.36	-4.62	-0.02	-2.59	-9.20	-0.45	-7.27	-4.56	-0.14	-9.83	51.70		
2 COS	-16.08	6.52	-2.13	-0.02	-0.59	1.29	2 COS	-9.42	5.56	-3.67	-0.05	1.32	3.97	
3 SIN	-3.59	5.33	0.94	-0.03	-0.14	-7.11	-1.01	3 COS	9.36	-34.55	5.76	-0.58	-6.50	-5.47
3 COS	-2.62	-26.74	0.94	-0.14	-0.14	8.75	0.19	3 SIN	2.48	5.48	2.02	-1.20	-7.88	2.57
4 SIN	-3.83	-49.40	-8.19	0.51	18.53	-1.89	-5.04	4 COS	-1.60	-11.30	-3.96	-0.07	-6.97	-0.92
4 COS	-18.90	-57.40	3.43	0.51	-0.54	-0.54	0.54	4 SIN	3.76	-0.17	1.24	0.46	-13.38	-4.23
5 SIN	13.75	15.90	12.89	0.51	28.45	-0.17	5 SIN	10.28	15.70	24.93	-0.76	24.92	-3.21	
5 COS	15.48	-1.31	-47.26	0.51	-22.67	-0.73	-0.93	5 COS	-0.93	-3.83	-40.17	0.27	-33.44	2.85
6 SIN	-4.79	23.59	6.25	-0.51	15.07	-2.01	6 SIN	-3.40	6.11	-5.39	0.66	3.03	-2.72	
6 COS	16.59	10.59	5.20	-0.51	4.91	3.61	4.26	6 SIN	2.14	7.07	-0.18	8.98	-4.80	
7 COS	4.03	-8.09	-1.38	0.51	-2.04	0.94	7 COS	-1.30	3.17	-0.28	0.41	3.82	1.52	
7 SIN	4.52	-3.22	3.59	-0.51	10.64	0.94	10 SIN	-10.69	-14.08	-0.87	0.18	1.47	-2.59	
8 COS	-2.26	105.54	8.71	-0.51	44.59	-0.51	8 COS	2.40	47.17	-3.62	0.61	21.04	6.30	
8 SIN	-0.74	56.73	-3.48	-0.51	25.49	1.11	8 SIN	6.04	-21.90	2.27	0.35	-6.32	1.37	
9 COS	7.60	-3.03	3.90	0.73	2H.23	-3.50	9 COS	-1.39	17.91	-2.13	0.61	20.36	-2.49	
9 SIN	2.18	-16.95	5.04	-0.14	-3.82	-0.31	9 SIN	0.31	27.38	2.89	-0.57	-4.20	2.49	
10 COS	3.21	45.23	-11.65	0.67	27.19	-4.34	10 COS	2.54	-49.74	-21.31	-0.21	4.89	0.20	
10 SIN	1.72	-93.02	-11.64	-0.25	5.96	5.4H	10 SIN	-0.93	-23.09	11.27	-0.35	-15.19	4.75	
11 COS	-1.88	-27.03	12.66	0.11	11.45	0.55	11 COS	-1.24	33.97	-6.70	-0.12	-23.07	-0.09	
11 SIN	3.06	-15.96	-5.13	-0.53	7.06	1.69	11 SIN	-1.60	13.20	-0.97	-0.60	-8.54	-0.72	
12 COS	0.32	31.52	-2.07	0.74	21.97	-5.63	12 COS	-0.01	-31.69	4.43	0.26	-14.11	-0.47	
12 SIN	1.21	-10.51	-0.40	-0.14	-22.52	2.20	12 SIN	0.27	-5.98	4.10	0.00	-8.51	0.80	

D10

## FFT COEFFICIENTS FOR DATA POINT

59

## FFT COEFFICIENTS FOR DATA POINT

60

HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL
DC	612.75 0.00	-14.27 0.00	-15.38 0.00	-0.77 0.00	-31.32 0.00	-65.04 0.00	DC	567.88 0.00	-9.76 0.00	-12.85 0.00	1.13 0.00	-33.76 0.00	-72.98 0.00
1 COS 1 SIN	-7.24 -19.90	-4.67 3.10	-2.05 -1.29	0.53 0.97	13.52 -10.16	2.85 3.93	1 COS 1 SIN	-8.88 -17.52	-0.54 5.37	2.74 0.64	0.08 0.74	13.24 -8.52	-1.96 2.40
2 COS 2 SIN	-10.86 -2.78	5.66 -1.89	-1.90 2.77	-0.55 -0.07	-4.88 -8.23	-0.75 -0.57	2 COS 2 SIN	-14.81 2.03	5.31 -1.85	-1.62 -2.79	-0.03 -0.36	-4.84 -9.97	1.13 3.85
3 COS 3 SIN	8.18 -1.01	-33.79 12.77	3.55 4.98	-0.71 0.47	-9.88 9.67	-5.00 1.15	3 COS 3 SIN	-0.30 -4.14	-26.34 15.50	2.36 2.52	0.70 -0.35	-10.82 9.71	-3.53 1.88
4 COS 4 SIN	6.96 10.01	-0.76 -19.20	-9.51 -1.76	-0.46 -0.44	7.62 -13.93	5.07 -2.68	4 COS 4 SIN	-4.24 12.23	-40.39 2.48	4.84 3.74	0.60 -0.47	-3.96 -17.63	-1.87 2.46
5 COS 5 SIN	12.68 1.63	26.18 -14.40	17.82 -4.57	0.20 -0.03	28.28 -29.04	-2.74 4.35	5 COS 5 SIN	10.15 -1.37	22.92 -27.64	29.75 -39.25	0.51 -0.33	38.44 -44.99	-2.69 1.12
6 COS 6 SIN	-7.29 9.27	24.80 6.18	5.03 4.63	0.24 0.24	12.10 5.34	4.30 2.35	6 COS 6 SIN	-2.83 -3.49	19.63 13.19	-6.02 -0.94	0.89 -0.48	2.42 6.21	-2.16 0.77
7 COS 7 SIN	-5.06 -10.82	-3.75 6.13	4.94 3.07	-0.49 0.53	6.50 11.01	-6.87 -3.46	7 COS 7 SIN	-2.38 -9.75	0.49 11.15	-2.77 0.06	-0.26 0.34	0.34 11.50	2.92 -1.07
8 COS 8 SIN	4.57 1.51	26.11 8.50	4.73 -3.31	0.26 0.20	11.51 10.74	-5.98 3.24	8 COS 8 SIN	2.91 -0.84	75.15 -35.78	-0.14 -11.66	-0.25 0.24	27.31 -10.69	-4.53 1.28
9 COS 9 SIN	-1.25 2.00	13.58 -26.97	-2.23 8.00	0.58 0.53	30.15 -15.39	2.51 1.73	9 COS 9 SIN	-3.92 -4.97	9.58 -8.47	-3.53 6.97	0.56 0.39	17.65 -15.44	-2.68 -3.88
10 COS 10 SIN	5.03 0.17	39.42 -77.45	-11.83 -10.03	-0.45 0.39	33.41 -7.98	-0.90 -0.26	10 COS 10 SIN	1.64 1.00	-29.65 24.82	-19.87 8.58	-0.30 -0.29	35.00 1.26	3.00 -0.02
11 COS 11 SIN	1.11 0.90	-3.72 32.69	31.42 -1.72	-0.19 -0.76	15.72 -10.56	2.67 -1.74	11 COS 11 SIN	2.80 0.55	20.08 40.91	9.18 -11.75	0.34 -0.58	-12.90 -25.20	2.47 -3.50
12 COS 12 SIN	0.31 1.17	-56.40 -29.38	8.56 4.35	0.31 0.03	-0.69 -8.49	-0.20 -3.42	12 COS 12 SIN	0.66 -2.27	0.70 -27.33	0.22 7.63	0.10 0.10	14.87 -7.16	-1.53 -0.65

D19

QUALITY

## FFT COEFFICIENTS FOR DATA POINT

## FFT COEFFICIENTS FOR DATA POINT

HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL
0C	612.90	-16.48	-16.20	-1.06	-31.05	-67.77	0C	614.60	-15.47	-14.88	-0.84	-28.30	-71.92
1 SIN	0.00	0.00	0.00	0.00	0.00	0.00	1 COS	0.00	0.00	0.00	0.00	0.00	0.00
1 COS	-3.84	-7.85	-2.20	-0.05	15.65	-0.91	1 SIN	-3.66	-6.43	0.12	0.55	14.00	-1.61
1 SIN	-18.98	2.54	-1.43	1.43	-10.69	2.22	1 COS	-20.59	4.26	0.92	0.32	-7.54	5.02
2 COS	-5.77	1.97	-1.88	-0.05	-3.09	4.27	2 SIN	-9.70	-0.79	-3.71	0.04	-0.86	0.68
2 SIN	0.49	-0.47	0.76	-0.07	-8.07	0.55	2 COS	3.57	-6.00	-2.70	-0.50	-10.69	-0.50
3 COS	16.20	-26.20	3.30	-0.03	-7.55	-3.39	3 SIN	13.56	-40.80	2.54	-0.77	-5.14	-2.17
3 SIN	3.79	9.21	-0.19	-0.34	5.51	-1.72	3 COS	-1.85	8.68	1.82	-0.12	7.25	0.15
4 COS	4.69	15.13	-8.36	-0.01	-3.33	2.14	4 SIN	17.15	-19.28	-12.22	-0.06	19.72	-1.16
4 SIN	19.07	-8.63	-0.57	0.37	-4.86	3.90	4 COS	16.55	-16.22	3.11	0.45	-5.36	-1.55
5 COS	-1.08	17.55	14.23	-0.36	24.42	3.99	5 SIN	-13.37	44.04	17.35	0.28	35.74	1.99
5 SIN	-1.60	-24.18	-44.85	0.57	-30.24	-0.32	5 COS	-2.75	-13.35	-36.69	-0.35	-26.80	2.82
6 COS	-5.76	5.73	5.28	-0.06	6.73	3.86	6 SIN	-10.08	23.80	0.24	0.65	2.03	1.29
6 SIN	-4.19	14.89	4.27	-0.16	1.68	-1.91	6 COS	3.17	-8.19	-10.10	0.27	-7.68	-2.88
7 COS	-0.53	-5.62	2.50	-0.23	9.13	1.86	7 SIN	-3.01	1.79	-0.34	-0.73	3.27	4.44
7 SIN	-5.92	-30.51	1.73	-0.40	-11.49	2.56	7 COS	-8.62	-11.72	-5.87	0.34	-4.50	2.48
8 COS	3.40	6.28	-0.86	0.01	6.20	-2.85	8 SIN	4.06	24.23	5.18	0.02	3.22	-0.97
8 SIN	2.89	-15.13	4.87	-0.23	-5.98	-0.49	8 COS	1.88	12.84	6.66	-0.36	14.56	1.40
9 COS	-1.35	-2.99	-0.62	0.19	4.36	3.89	9 SIN	-2.87	27.52	-2.95	0.26	15.13	-0.97
9 SIN	3.78	-43.22	2.44	-0.37	-13.40	-0.33	9 COS	3.51	16.48	-1.80	0.41	-0.40	-2.62
10 COS	1.07	-48.21	-18.46	0.27	11.54	1.26	10 SIN	0.38	48.64	-9.48	0.55	6.94	-4.24
10 SIN	-3.85	25.20	4.12	0.00	11.82	-1.61	10 COS	0.24	-85.76	-11.45	-0.24	-11.16	1.02
11 COS	0.57	-29.78	22.60	0.77	0.25	4.52	11 SIN	-0.74	1.66	-16.12	0.32	-11.24	4.74
11 SIN	1.49	30.49	-4.18	-0.28	-20.52	0.71	11 COS	-1.11	-16.22	11.55	-0.20	-11.90	4.37
12 COS	-2.17	-3.64	4.18	-0.79	9.97	-1.64	12 SIN	1.40	-28.89	13.39	0.35	8.13	-1.00
12 SIN	1.02	20.87	2.46	0.29	7.42	-1.38	12 COS	1.31	-45.29	8.75	-0.33	-7.17	0.97

D20

## FFT COEFFICIENTS FOR DATA POINT 63

## FFT COEFFICIENTS FOR DATA POINT 64

HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL
DC	616.81 0.00	-16.21 0.00	-14.38 0.00	-0.18 0.00	-26.84 0.00	-71.86 0.00	DC	598.72 0.00	-16.28 0.00	-15.89 0.00	0.07 0.00	-29.86 0.00	-79.52 0.00
1 COS	-4.12 1 SIN	-7.13 4.68	0.20 0.57	0.91 -5.33	15.87 4.10	-0.42 -5.33	1 COS	-9.13 1 SIN	-7.64 -18.32	-3.47 4.00	1.63 0.81	15.35 -9.30	-0.55 5.30
2 COS	-11.47 2 SIN	1.37 -5.54	-1.26 -3.71	-0.21 -0.18	2.07 -10.96	2.68 2.24	2 COS	-14.51 2 SIN	8.22 -4.17	1.15 1.24	0.41 -0.43	-2.29 -5.72	2.71 -1.04
3 COS	9.89 3 SIN	-32.34 -0.80	3.40 13.49	0.83 0.15	-0.06 0.10	-8.58 0.79	3 COS	0.93 3 SIN	-18.09 6.46	5.19 3.29	0.68 -0.42	-2.18 10.67	-0.94 -1.09
4 COS	5.81 4 SIN	-44.77 7.90	-6.29 -13.33	0.53 3.05	21.28 0.16	-3.47 -12.34	4 COS	5.09 4 SIN	-12.98 -16.26	-5.43 1.98	0.05 -0.46	-6.25 9.55	-3.02 4.29
5 COS	-2.16 5 SIN	33.72 -16.42	17.00 -31.67	0.49 -1.34	38.87 -37.48	-1.89 0.21	5 COS	1.37 5 SIN	13.21 -5.13	18.53 -37.45	-1.06 -0.47	26.79 -26.02	-0.94 4.93
6 COS	-14.07 6 SIN	25.52 -14.29	-2.07 -9.55	0.05 0.23	-0.01 -8.05	0.79 -0.45	6 COS	-10.75 6 SIN	21.48 -3.32	3.13 -5.72	0.48 0.26	1.12 -5.14	2.18 1.06
7 COS	-2.53 7 SIN	1.40 -6.52	0.20 -2.64	-0.26 -2.52	3.87 0.28	-4.97 0.91	7 COS	2.74 7 SIN	5.75 -2.08	2.61 -0.12	-0.54 0.08	-5.67 -2.71	2.77 1.01
8 COS	1.61 8 SIN	31.57 -10.50	-2.20 -2.38	-0.27 -0.51	20.81 -4.77	1.36 -3.93	8 COS	0.27 8 SIN	35.19 2.66	4.60 16.55	0.23 -4.95	7.90 -0.05	3.40 14.78
9 COS	-0.24 9 SIN	-4.60 3.86	1.05 -4.56	0.36 0.22	-2.60 -0.41	-0.19 -7.26	9 COS	1.50 9 SIN	-2.49 2.85	1.46 -24.28	0.66 0.15	1.27 0.48	1.92 -1.49
10 COS	2.34 10 SIN	2.96 -1.11	-16.22 -10.05	0.32 -0.26	3.51 -8.90	1.19 1.01	10 COS	2.57 10 SIN	22.19 -76.46	-19.57 -9.74	-1.17 0.13	42.21 -17.18	-4.24 2.60
11 COS	1.41 11 SIN	13.93 -10.41	-0.03 16.72	0.64 -0.21	4.30 2.66	-1.37 -0.63	11 COS	-0.87 11 SIN	15.46 -2.47	-11.20 13.89	0.03 -0.13	-10.83 2.02	1.09 -4.65
12 COS	-1.26 12 SIN	-39.49 -28.19	9.58 5.48	0.56 -0.02	13.62 -12.63	2.63 1.80	12 COS	-0.24 12 SIN	-22.56 -27.68	5.09 -3.19	0.48 0.33	11.30 -11.17	2.19 0.58

D21

FFT COEFFICIENTS FOR DATA POINT 65						FFT COEFFICIENTS FOR DATA POINT 66							
HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL	
DC	585.16 0.00	-15.72 0.00	-16.54 0.00	0.29 0.00	-28.64 0.00	-67.30 0.00	DC 0.00	579.17 -0.00	-13.31 0.00	-17.27 0.00	1.77 0.00	-29.95 0.00	-68.52 0.00
1 COS 1 SIN	-3.45 -20.65	-6.41 6.04	-1.92 0.73	0.66 0.68	14.01 -7.78	4.78 7.02	1 COS 1 SIN	-11.79 -19.74	-5.36 2.71	-3.85 -0.82	-0.20 -1.16	11.32 -8.96	-1.47 5.43
2 COS 2 SIN	-8.56 -2.35	-2.07 -3.91	-2.32 -6.13	0.22 0.82	-1.31 -12.62	-0.84 -0.38	2 COS 2 SIN	-9.37 10.49	7.81 1.42	-1.16 2.79	0.21 -0.29	-4.09 -0.93	0.72 -1.96
3 COS 3 SIN	15.06 -3.19	-32.94 6.39	-1.09 -0.09	-0.42 -0.59	-6.63 5.41	-5.18 0.02	3 COS 3 SIN	-3.50 -10.52	-1.60 12.13	-0.30 5.80	0.02 0.01	-3.07 9.58	2.05 1.07
4 COS 4 SIN	-50.75 6.61	-21.81 0.94	-0.86 8.67	-0.06 0.18	17.11 -17.82	-1.29 -0.20	4 COS 4 SIN	38.67 23.73	-18.39 -22.32	-2.82 -3.33	0.61 0.17	-0.36 -20.48	0.81 -2.07
5 COS 5 SIN	5.59 -0.35	8.89 -26.94	13.18 -45.80	-0.25 0.18	21.36 -36.56	-3.08 0.04	5 COS 5 SIN	11.31 16.95	-6.18 -15.59	21.96 -32.68	-0.44 -0.19	24.22 -26.52	-0.11 4.08
6 COS 6 SIN	-5.66 4.67	22.30 22.91	5.17 6.04	-0.17 -0.78	13.90 11.67	0.65 0.99	6 COS 6 SIN	-1.90 -11.31	-3.64 -11.61	5.53 -6.54	-0.47 -0.10	-0.91 -13.14	-0.94 -3.63
7 COS 7 SIN	3.73 -5.03	-8.15 -12.68	-0.41 6.50	-0.01 -0.13	-0.07 0.28	-0.08 2.37	7 COS 7 SIN	5.43 0.91	-0.63 0.23	0.63 -0.89	-0.28 -0.71	4.66 -2.04	-0.47 0.52
8 COS 8 SIN	-5.19 2.98	126.54 -60.47	-6.25 -14.24	0.40 -0.44	48.99 -14.47	-1.55 5.85	8 COS 8 SIN	-0.56 5.11	-14.64 9.58	1.25 -2.08	0.80 -0.22	-16.88 10.03	1.20 -0.64
9 COS 9 SIN	4.17 -3.46	-11.99 -22.72	2.21 2.00	0.55 0.00	5.40 -12.44	-1.40 2.43	9 COS 9 SIN	-2.31 3.80	12.88 0.03	-1.93 1.93	-0.52 -0.10	10.35 -0.48	0.01 -1.34
10 COS 10 SIN	-2.74 1.71	-11.09 22.78	-14.61 12.71	-0.08 0.09	41.78 -13.07	-1.07 -0.60	10 COS 10 SIN	-1.01 -3.81	-0.68 -2.44	-8.50 -5.01	-0.50 -0.41	-3.11 8.05	1.07 -3.33
11 COS 11 SIN	0.06 4.87	-12.35 22.74	20.04 1.69	0.70 -0.40	0.62 -1.19	-0.66 -0.93	11 COS 11 SIN	0.66 -3.32	-0.21 20.70	-13.76 2.75	-0.13 -0.69	-3.99 -1.87	1.53 3.66
12 COS 12 SIN	0.85 -2.90	-43.81 -39.61	4.62 2.94	0.34 0.72	-13.42 -37.73	3.12 0.40	12 COS 12 SIN	-1.26 -2.10	7.16 -15.89	-8.22 -4.17	-0.17 -0.53	2.14 -9.57	0.41 -3.99

## FFT COEFFICIENTS FOR DATA POINT 67

## FFT COEFFICIENTS FOR DATA POINT 68

HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL
DC	616.84	-18.11	-15.84	3.40	-25.12	-64.93	DC	614.09	-14.15	-12.52	-0.77	-29.00	-67.23
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 COS	-2.12	-9.55	-1.01	-0.63	13.97	-1.80	1 COS	-5.15	-4.34	2.83	0.83	15.15	-0.04
1 SIN	-19.66	6.38	1.84	0.26	-8.25	1.64	1 SIN	-19.79	4.05	0.37	1.36	-7.65	0.85
2 COS	1.60	-5.75	-2.36	0.12	-2.69	0.32	2 COS	-10.64	0.60	-2.10	-0.37	-1.51	3.02
2 SIN	10.57	-7.21	-6.33	0.86	-6.41	-1.65	2 SIN	1.99	-6.99	-3.66	0.84	-11.01	-3.33
3 COS	15.46	-16.25	3.20	0.88	3.94	-3.59	3 COS	10.11	-28.26	5.70	-0.51	-6.64	-7.06
3 SIN	-4.16	23.64	-4.53	0.37	7.45	-0.14	3 SIN	-2.17	3.38	0.76	-0.24	6.71	-1.20
4 COS	-7.74	-2.87	-6.03	-0.42	1.58	-1.61	4 COS	5.32	8.52	0.36	0.42	-0.76	4.97
4 SIN	-12.50	7.73	3.81	0.06	6.51	-2.00	4 SIN	24.57	-23.34	-2.22	1.00	4.78	4.68
5 COS	0.56	0.24	21.42	-0.13	19.42	-2.13	5 COS	1.30	26.83	28.48	0.89	41.80	-4.48
5 SIN	7.18	-14.91	-35.77	-0.65	-28.44	2.45	5 SIN	0.05	-19.04	-43.87	0.01	-37.00	0.83
6 COS	1.60	-10.41	7.51	-0.28	1.15	1.36	6 COS	-17.89	30.96	-7.64	-0.36	2.25	-0.29
6 SIN	-0.33	-5.65	0.66	-0.10	-10.43	3.10	6 SIN	2.05	11.26	-2.19	0.30	10.11	-1.66
7 COS	2.76	-3.05	1.97	0.07	2.45	3.45	7 COS	-4.22	-3.78	0.39	0.13	2.93	-1.13
7 SIN	2.46	-11.89	-1.42	0.07	-7.06	-5.73	7 SIN	-6.49	-4.74	-0.52	0.47	3.29	-3.49
8 COS	-2.69	10.01	-0.76	-0.16	5.27	-1.82	8 COS	-2.79	14.16	-11.06	-0.57	1.90	5.12
8 SIN	0.16	18.39	2.47	-0.35	11.14	0.62	8 SIN	8.35	-39.19	0.49	-0.06	-16.27	-4.55
9 COS	-2.07	-0.45	4.10	-0.47	7.44	5.97	9 COS	3.27	17.36	-3.47	-1.29	3.18	3.22
9 SIN	3.46	4.17	-0.33	-0.03	-2.65	1.17	9 SIN	2.99	-35.98	-1.46	0.38	-16.61	-4.85
10 COS	0.07	-16.23	-9.33	-1.11	13.99	-0.98	10 COS	0.27	47.74	-15.93	0.10	42.49	-1.33
10 SIN	-2.48	23.72	2.62	-0.88	2.63	0.28	10 SIN	1.18	-12.38	-9.78	-0.31	6.51	1.56
11 COS	0.35	-19.62	-6.26	0.17	1.75	1.50	11 COS	2.42	-38.06	1.65	-0.10	-0.71	0.22
11 SIN	-1.78	-4.66	-14.53	-0.15	-20.19	1.20	11 SIN	-1.59	5.78	-12.20	0.31	-10.46	0.38
12 COS	-0.30	-3.18	4.88	-0.01	5.24	-0.72	12 COS	-1.79	-12.41	-2.55	-0.48	1.23	-1.02
12 SIN	-0.55	-7.71	-0.38	0.39	0.77	-0.19	12 SIN	-1.82	-48.51	10.72	-0.71	-7.85	0.39

D23

## FFT COEFFICIENTS FOR DATA POINT

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## FFT COEFFICIENTS FOR DATA POINT

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HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL
DC	611.02	-16.06	-17.34	1.66	-28.74	-72.59	DC	607.77	-13.98	-15.08	-0.05	-28.52	-70.12
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 COS	-6.11	-8.79	-4.04	-0.32	15.40	-0.98	1 COS	-5.94	-4.61	0.50	1.28	12.66	-4.75
1 SIN	-18.30	3.42	-0.95	-0.68	-8.67	3.46	1 SIN	-19.30	4.59	1.06	0.41	-5.02	2.03
2 COS	-7.85	4.79	-0.96	0.56	-3.48	1.10	2 COS	-16.84	3.01	-3.99	-0.24	-0.61	1.15
2 SIN	3.76	2.54	0.10	-0.37	-4.60	1.43	2 SIN	2.43	-6.11	-2.54	-0.34	-12.31	1.20
3 COS	8.32	-14.31	-0.17	-0.47	0.14	-0.98	3 COS	1.68	-33.98	2.25	-0.10	-6.51	-1.58
3 SIN	-13.35	36.20	-0.09	0.56	10.17	3.41	3 SIN	1.52	7.64	4.84	-1.08	10.80	-2.59
4 COS	-15.38	-5.29	0.13	0.39	13.47	-1.18	4 COS	16.07	31.63	-7.33	0.49	1.90	0.16
4 SIN	-3.52	-32.22	11.78	0.83	7.75	-4.71	4 SIN	-7.15	-34.51	-6.80	0.69	18.09	-5.63
5 COS	-7.96	-5.16	26.47	0.81	20.23	0.49	5 COS	8.42	24.63	17.24	-0.73	30.26	-0.26
5 SIN	16.89	-28.12	-33.20	-0.83	-33.14	1.37	5 SIN	13.47	17.64	-40.64	0.89	-7.22	-0.67
6 COS	0.45	-6.98	-2.38	0.16	-3.00	-3.55	6 COS	-3.61	32.39	4.08	-0.04	5.00	1.14
6 SIN	13.28	-18.09	-5.39	-0.07	-11.34	3.20	6 SIN	4.60	16.33	-9.17	0.63	-0.77	0.46
7 COS	0.05	5.96	0.68	1.00	1.40	-3.82	7 COS	2.77	0.96	1.64	0.12	-10.94	2.35
7 SIN	1.96	-4.19	0.79	0.12	0.04	0.32	7 SIN	2.34	-20.75	2.82	0.47	5.38	0.09
8 COS	2.45	4.30	-1.53	0.35	5.90	-1.34	8 COS	4.72	-44.45	-1.41	0.05	-14.72	-0.94
8 SIN	-0.27	-1.26	6.66	0.05	0.94	-0.67	8 SIN	0.99	-36.02	-1.57	-0.11	-10.74	0.99
9 COS	-1.95	-0.38	-1.82	0.19	1.13	2.82	9 COS	0.93	25.87	-5.28	-0.09	3.28	-1.23
9 SIN	1.06	-24.69	2.59	0.05	-14.59	-0.89	9 SIN	6.25	-22.35	-4.97	-0.09	13.24	-0.61
10 COS	-0.48	-0.77	-7.72	-0.14	0.76	4.04	10 COS	-0.13	105.23	1.08	0.53	27.00	-2.56
10 SIN	0.13	-2.67	2.97	0.26	-14.34	-0.54	10 SIN	0.68	77.55	-5.39	-1.18	16.34	2.81
11 COS	-1.02	14.99	-4.27	-0.70	-24.36	3.87	11 COS	-1.43	-6.25	-23.36	-0.72	-17.64	-0.74
11 SIN	1.87	-4.19	17.37	0.37	13.45	-3.26	11 SIN	-4.99	-60.90	-2.06	0.48	-1.73	0.17
12 COS	1.10	-3.29	6.21	-0.54	1.37	3.94	12 COS	0.75	25.97	-5.81	-1.22	-8.26	-1.05
12 SIN	-0.31	-0.76	-2.59	0.03	-1.56	1.06	12 SIN	-3.97	0.61	-9.54	0.06	-15.40	-0.44

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FFT COEFFICIENTS FOR DATA POINT							71	FFT COEFFICIENTS FOR DATA POINT							72
HARMONIC	ACC1	ACC2	ACC3	PLL1	ACCS	N2BL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACCS	N2BL		
NC	606.60 0.00	-13.00 0.00	-16.14 0.00	2.27 0.00	-32.93 0.00	-65.95 0.00	DC	603.81 0.00	-14.98 0.00	-14.40 0.00	0.20 0.00	-33.48 0.00	-71.70 0.00		
1 COS 1 SIN	-7.95 -19.81	-4.88 4.05	-3.25 0.24	0.18 -0.96	10.66 -9.72	-3.23 4.10	1 COS 1 SIN	-3.41 -17.54	-4.91 2.98	-0.10 -1.71	0.57 0.27	14.56 -9.11	1.01 6.42		
2 COS 2 SIN	-12.37 12.42	10.49 -5.81	1.50 -2.12	-0.29 -0.04	-6.25 -4.09	0.56 1.65	2 COS 2 SIN	-5.68 0.87	2.24 -2.23	-2.26 1.83	0.21 -0.20	-3.42 -6.31	2.22 1.93		
3 COS 3 SIN	-3.39 -7.90	-1.93 13.77	3.45 1.48	-0.19 0.00	-4.85 6.04	1.23 -3.15	3 COS 3 SIN	11.60 6.35	-32.66 12.77	5.87 0.42	0.17 -0.17	-5.19 10.38	-3.59 0.69		
4 COS 4 SIN	27.62 22.77	35.15 -0.61	1.86 -12.07	0.32 0.22	-0.80 -6.80	3.61 -1.54	4 COS 4 SIN	-5.37 -23.75	-5.42 -21.39	-5.08 2.58	-0.02 0.21	-5.08 19.86	-1.03 -3.38		
5 COS 5 SIN	9.99 11.76	-49.72 -8.86	36.48 -35.88	0.24 0.04	7.57 -34.44	0.63 0.32	5 COS 5 SIN	5.84 5.79	25.55 10.19	22.94 -50.58	0.30 -0.16	32.36 -18.96	2.11 -1.04		
6 COS 6 SIN	-2.18 -8.49	-3.40 -5.57	-6.79 -1.46	-0.13 0.01	-6.08 3.12	0.95 0.43	6 COS 6 SIN	-2.21 4.94	27.76 19.41	-7.01 5.05	0.51 0.48	4.92 16.27	-2.74 -2.40		
7 COS 7 SIN	4.36 -4.64	8.30 6.14	-2.44 -0.97	-0.27 -0.19	-2.68 3.08	-0.90 -1.13	7 COS 7 SIN	-2.04 -3.09	0.23 -22.49	-1.69 3.55	-0.17 0.08	-3.59 3.74	3.58 0.90		
8 COS 8 SIN	5.59 2.65	-30.68 5.11	1.11 3.60	0.59 -0.73	-16.34 4.20	0.58 0.95	8 COS 8 SIN	-5.70 -0.23	16.40 22.94	-4.83 3.10	0.13 0.50	4.38 13.88	0.48 3.04		
9 COS 9 SIN	-2.64 3.35	6.38 14.06	-2.50 1.09	-0.30 0.01	5.02 0.83	-4.29 3.32	9 COS 9 SIN	7.24 2.63	-55.93 -49.93	-0.39 6.63	0.31 0.51	-16.06 -9.09	1.21 -2.77		
10 COS 10 SIN	0.60 -2.86	9.32 -14.99	-14.53 -13.47	-0.14 -0.49	-0.36 0.32	1.08 1.52	10 COS 10 SIN	-1.14 0.54	49.03 48.63	-13.68 10.50	-0.02 0.20	42.48 -5.09	-2.48 -4.19		
11 COS 11 SIN	0.22 -1.79	-33.37 16.21	-0.17 -20.25	-0.16 -0.24	-0.11 -18.74	-0.31 2.10	11 COS 11 SIN	-1.27 -0.17	19.11 20.47	-15.37 0.21	0.87 -0.43	-31.79 2.96	2.25 -0.19		
12 COS 12 SIN	-1.06 0.67	4.84 8.85	0.54 -0.35	-0.19 0.32	8.00 9.36	0.94 0.23	12 COS 12 SIN	0.07 -2.22	42.94 -36.21	-4.52 -2.72	0.41 -0.39	14.96 14.10	-2.67 -0.11		

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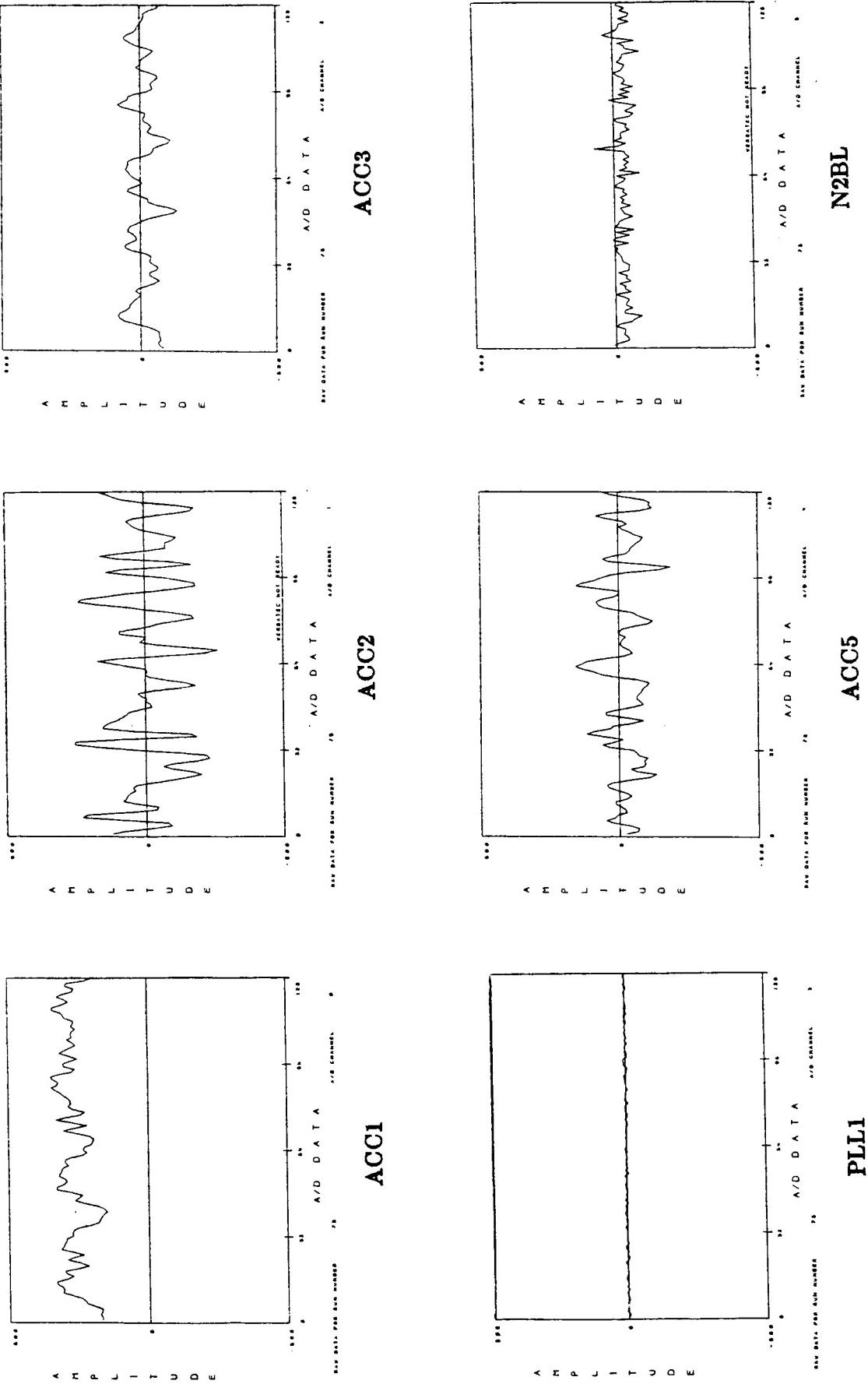


Figure D2

Analog presentation of vibratory response data for data point 73.  
Data window is 1 rotor revolution, with 128 samples/rev.

## FFT COEFFICIENTS FOR DATA POINT 74

HARMONIC	ACC1	ACC2	ACC3	PLL1	ACCS	N2BL
DC	534.85 0.00	-9.73 0.00	-18.10 0.00	1.74 0.00	-27.33 0.00	-62.55 0.00
1 COS 1 SIN	-0.69 19.40	9.14 -5.68	0.18 -1.88	-0.47 -1.12	-13.25 7.52	-1.56 -1.90
2 COS 2 SIN	-10.12 -4.35	6.88 3.79	-2.33 0.70	-0.25 -0.12	-1.05 -7.89	0.25 4.15
3 COS 3 SIN	-9.97 -9.95	47.06 -14.77	-10.53 -5.48	0.44 -0.51	8.62 -10.14	2.27 6.00
4 COS 4 SIN	-24.69 32.01	5.40 -36.10	-3.60 0.05	0.36 0.07	24.18 -4.91	1.31 -2.81
5 COS 5 SIN	0.51 -2.01	-30.57 -14.85	-50.52 10.72	-0.50 -0.02	-50.78 -4.24	1.72 1.25
6 COS 6 SIN	-26.02 -4.75	16.27 19.33	8.15 4.69	0.01 0.14	10.89 2.98	-2.55 3.38
7 COS 7 SIN	-10.47 19.20	0.29 16.05	-1.69 2.65	0.10 0.10	4.44 -4.31	4.09 -7.33
8 COS 8 SIN	-4.66 8.97	10.26 -4.96	-10.18 7.75	0.10 0.22	4.69 0.59	-1.43 -4.20
9 COS 9 SIN	10.76 -4.34	29.31 -43.73	4.99 0.75	-0.62 -0.12	-7.99 -30.30	1.82 -7.62
10 COS 10 SIN	-2.18 7.96	18.57 49.55	0.49 -6.22	0.12 -0.44	8.39 7.64	3.47 1.28
11 COS 11 SIN	2.61 1.46	-26.88 0.19	17.94 11.06	-0.12 -0.61	13.98 -12.38	4.77 0.64
12 COS 12 SIN	-1.70 1.26	48.03 25.27	-5.06 -1.16	-0.15 -0.08	8.48 26.23	0.45 5.67

DATA POINTS 73 THROUGH 113

Used to Calculate Local Transfer Matrix

Rotor RPM = 1100  
LSE Batch Size = 36  
Forcing Amplitude Limit  $\pm 0.33^\circ$  Root Pitch

## FFT COEFFICIENTS FOR DATA POINT 75

HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2RL	HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2RL
DC	545.34	-12.56	-16.05	-0.37	-25.25	-63.19	DC	521.21	-13.25	-14.78	0.66	-26.45	-71.34
1 COS	0.01	7.48	0.43	-0.53	-8.97	0.96	1 COS	3.80	8.39	1.41	-0.34	-4.40	5.08
1 SIN	21.98	-2.16	1.99	-1.45	7.06	-0.34	1 SIN	21.76	-3.02	-1.01	-1.21	-2.56	-2.75
2 COS	-16.67	4.51	-0.90	0.19	6.57	0.60	2 COS	-12.83	6.42	2.55	-0.42	7.41	1.49
2 SIN	-0.84	-1.79	-6.01	-0.54	-7.71	0.94	2 SIN	-5.83	12.65	1.76	-0.15	-6.59	2.89
3 COS	-22.26	69.30	-4.03	-0.25	21.03	7.91	3 COS	-11.71	38.53	-5.93	0.23	9.94	5.02
3 SIN	7.12	-4.93	-6.15	-0.33	-12.19	10.76	3 SIN	14.27	-26.53	-0.76	0.46	-16.04	0.51
4 COS	-23.12	-62.20	-8.83	1.22	32.36	-1.25	4 COS	-28.18	-60.11	6.55	-0.07	12.12	-9.32
4 SIN	-9.02	-94.22	8.95	-0.62	3.32	-1.00	4 SIN	33.73	16.86	0.72	-0.37	-13.99	2.18
5 COS	-6.59	-17.89	-46.43	-1.38	-28.81	1.72	5 COS	6.16	-6.58	-45.80	-0.15	-34.87	-0.02
5 SIN	-2.98	1.34	20.68	-0.04	12.19	-5.27	5 SIN	-1.15	20.39	5.33	1.52	5.93	4.77
6 COS	-9.38	-12.83	2.36	-0.01	-5.14	-1.35	6 COS	-3.85	39.66	9.47	-0.46	28.64	-3.20
6 SIN	-18.18	25.70	-7.66	-0.26	0.86	4.93	6 SIN	3.85	20.55	6.36	-0.80	2.46	1.65
7 COS	-3.30	27.27	-4.94	0.83	13.85	-1.76	7 COS	1.89	-8.08	-4.98	-0.16	-15.17	-0.71
7 SIN	4.27	-31.45	-13.93	-0.21	-24.00	0.00	7 SIN	8.54	-17.48	-1.39	0.73	-15.96	1.02
8 COS	0.69	-67.40	-0.05	0.27	-27.09	4.62	8 COS	-5.62	-35.60	11.39	-0.77	-18.51	-4.46
8 SIN	-2.39	24.30	22.66	0.34	-18.38	-0.65	8 SIN	8.26	48.33	2.44	-0.32	41.96	4.37
9 COS	-0.10	28.64	-6.82	0.04	1.09	3.59	9 COS	1.12	34.67	-2.41	-0.49	3.77	1.90
9 SIN	-2.96	12.04	-6.81	0.36	12.80	-3.00	9 SIN	7.94	-44.64	5.87	-0.45	-30.16	4.52
10 COS	-2.00	32.23	6.37	-0.14	4.31	2.11	10 COS	6.06	21.16	1.69	0.46	13.67	2.76
10 SIN	8.56	166.07	8.85	-0.42	24.15	0.60	10 SIN	-0.07	12.54	-5.12	-0.62	-9.56	4.77
11 COS	2.83	-7.23	4.14	-0.10	-15.96	-2.33	11 COS	6.33	-11.35	4.29	0.01	0.35	
11 SIN	-5.40	17.92	12.31	0.24	7.49	-1.92	11 SIN	3.98	-42.92	7.59	0.68	2.70	-0.13
12 COS	2.27	32.34	2.79	0.24	0.07	-0.49	12 COS	2.36	31.61	-15.99	0.30	-26.94	0.63
12 SIN	-4.24	81.01	-19.73	0.23	11.70	0.23	12 SIN	-0.66	-54.01	3.61	0.02	-9.84	-6.42

D28

FFT COEFFICIENTS FOR DATA POINT						77	FFT COEFFICIENTS FOR DATA POINT						78
HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2FL	HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL
DC	524.40 0.00	-13.04 0.00	-14.92 0.00	1.59 0.00	-29.20 0.00	-69.05 0.00	DC	544.59 0.00	-10.41 0.00	-15.54 0.00	1.02 0.00	-19.27 0.00	-64.59 0.00
1 COS 1 SIN	9.87 18.10	10.16 -4.32	3.41 -1.55	0.14 -0.44	-12.70 5.09	0.13 -2.16	1 COS 1 SIN	1.25 19.59	9.31 -9.14	1.88 -1.75	-0.80 -1.29	-6.97 8.18	1.18 -7.81
2 COS 2 SIN	-8.94 8.77	12.48 -9.33	-6.14 -5.98	1.05 -0.72	-6.53 -12.06	-1.19 1.76	2 COS 2 SIN	-5.57 -1.26	1.68 4.62	1.38 1.01	-0.12 0.77	5.91 -7.73	-3.79 3.95
3 COS 3 SIN	22.57 -3.39	-29.78 -15.77	-3.57 -0.46	0.30 -0.21	-9.81 -6.87	-2.62 -3.07	3 COS 3 SIN	-17.55 12.62	21.16 -38.65	-3.86 3.62	-0.77 -1.02	0.37 -12.18	8.43 0.64
4 COS 4 SIN	7.89 46.12	-13.32 73.64	14.55 -2.19	-0.25 0.99	-23.71 0.08	-2.73 7.40	4 COS 4 SIN	6.55 27.86	4.11 90.15	7.48 -8.00	-0.66 0.89	1.58 -0.87	-0.56 2.10
5 COS 5 SIN	-7.87 -12.54	18.02 24.30	-37.80 1.88	1.33 0.52	-16.72 6.38	2.44 1.51	5 COS 5 SIN	4.81 0.75	3.27 21.98	-46.73 16.57	0.07 1.52	-25.68 -9.40	7.12 2.78
6 COS 6 SIN	-0.35 -5.63	23.50 4.99	-0.85 11.24	-0.06 0.03	21.33 9.87	-4.85 -0.40	6 COS 6 SIN	-9.67 3.48	35.29 -16.11	5.07 -8.04	-0.08 -0.63	14.62 -16.29	-1.75 -2.82
7 COS 7 SIN	-10.58 4.66	-23.66 -3.35	-2.13 -2.20	1.17 0.54	1.71 4.64	-1.61 1.12	7 COS 7 SIN	-2.64 -0.05	-12.12 40.33	1.08 7.56	0.19 0.59	-11.86 29.80	-3.77 -5.79
8 COS 8 SIN	0.18 9.32	-50.92 21.20	-1.79 19.75	-0.24 0.66	-4.41 12.26	-1.15 -0.47	8 COS 8 SIN	2.47 3.70	71.68 49.27	6.30 -11.27	-0.10 0.45	38.77 20.90	-0.29 -2.96
9 COS 9 SIN	1.84 -7.79	13.28 -39.88	2.11 7.21	-0.68 0.44	-13.35 -35.42	-0.47 -2.62	9 COS 9 SIN	-1.04 16.32	62.63 -45.07	-4.49 2.45	-0.90 -0.46	10.53 -18.65	3.18 2.60
10 COS 10 SIN	1.29 0.73	39.23 -23.45	-9.82 -9.93	-0.84 -0.14	12.73 5.95	-1.21 2.91	10 COS 10 SIN	-0.41 -4.30	-28.96 -43.23	-6.27 -6.23	0.05 0.98	-4.77 -20.12	1.42 -3.63
11 COS 11 SIN	-7.04 -1.21	-10.43 -31.90	-24.88 18.78	-0.39 0.08	11.21 17.08	2.94 -5.18	11 COS 11 SIN	-2.27 -2.85	7.16 -5.46	-14.37 8.45	-0.40 -0.22	-24.45 -19.14	1.50 -0.39
12 COS 12 SIN	-0.07 2.19	-59.32 68.34	7.03 -12.06	-0.28 0.14	-9.22 -30.10	-0.09 -2.60	12 COS 12 SIN	-2.09 1.06	-43.34 -61.21	0.30 22.77	-0.03 -0.30	-34.86 15.44	1.04 1.88

## FFT COEFFICIENTS FOR DATA POINT

HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL
DC	879.74 0.00	-9.27 0.00	-19.14 0.00	0.44 0.00	-26.84 0.00	-61.09 0.00	IC	715.09 0.00	-15.24 0.00	-16.19 0.00	1.11 0.00	-29.73 0.00	-67.09 0.00
1 COS 1 SIN	6.68 13.69	12.71 -5.04	-1.79 1.62	-1.28 -1.19	-13.18 2.95	3.73 -5.14	1 COS 1 SIN	4.12 23.49	3.35 0.03	1.19 1.74	-0.99 -0.64	-11.06 10.31	-0.72 -4.27
2 COS 2 SIN	-4.67 -1.60	9.63 4.35	-0.61 -0.57	-0.54 0.57	5.14 -12.23	-1.14 3.68	2 COS 2 SIN	-9.42 -3.46	-2.23 2.42	0.81 -7.30	-0.20 -0.13	3.50 -10.66	3.39 0.53
3 COS 3 SIN	13.36 1.25	27.87 -4.19	-2.22 -6.52	0.33 -0.17	8.39 -0.81	0.69 1.62	3 COS 3 SIN	-5.88 9.36	21.00 -12.40	-3.84 -3.89	0.66 -0.18	8.37 -3.85	0.18 -1.61
4 COS 4 SIN	42.50 28.81	196.22 -26.28	-16.90 -17.61	-0.34 2.16	5.42 20.14	5.35 0.38	4 COS 4 SIN	20.23 -39.40	50.19 -19.33	-13.45 -0.22	0.54 1.13	-13.65 -4.57	4.09 -2.31
5 COS 5 SIN	6.53 -11.09	13.26 -0.04	-51.57 24.10	1.50 -0.87	-30.71 -3.17	-2.02 0.46	5 COS 5 SIN	-4.54 -2.14	-12.61 -5.11	-47.22 10.97	0.48 -0.58	-45.63 -2.52	4.13 1.94
6 COS 6 SIN	-24.39 -15.94	2.18 69.75	-2.88 -10.41	-1.02 0.83	-17.05 16.41	3.35 -1.16	6 COS 6 SIN	2.50 0.55	-11.69 10.86	9.12 2.66	-0.06 0.58	3.76 -3.06	-3.31 -1.17
7 COS 7 SIN	-0.52 1.53	27.56 55.25	5.62 -1.92	0.43 -0.38	2.73 10.72	-4.15 1.72	7 COS 7 SIN	1.49 8.06	-24.14 9.82	-1.79 2.63	-0.21 0.43	-2.24 -8.18	0.34 1.89
8 COS 8 SIN	5.67 9.37	73.01 -11.632	5.14 -8.45	-1.05 0.16	-11.44 -33.45	-0.42 1.00	8 COS 8 SIN	1.84 -2.54	-4.28 45.99	11.41 11.88	0.65 0.18	-3.11 20.77	-0.27 1.89
9 COS 9 SIN	-0.29 -6.13	104.32 87.12	-0.72 8.57	1.06 0.33	65.62 8.23	5.34 2.91	9 COS 9 SIN	-2.92 0.61	9.04 29.18	5.19 6.21	0.45 0.47	4.04 -11.75	3.98 0.12
10 COS 10 SIN	0.17 1.99	168.40 52.12	15.40 -19.15	-0.17 0.18	7.90 34.06	-1.05 -1.48	10 COS 10 SIN	0.83 -4.58	-42.58 61.19	-3.08 3.79	-0.02 -0.27	-9.99 11.99	-1.42 4.70
11 COS 11 SIN	-8.50 -3.87	27.63 56.58	-10.36 8.09	0.98 0.10	15.06 13.45	-2.76 -2.87	11 COS 11 SIN	-2.00 -1.51	-24.06 -50.17	2.07 -13.48	0.09 -0.01	-2.37 -7.09	-0.73 2.39
12 COS 12 SIN	-0.84 0.39	220.51 90.44	-32.35 -43.05	-0.18 -0.35	-6.35 -33.33	1.37 4.62	12 COS 12 SIN	0.16 -0.30	11.93 56.89	0.95 -6.40	-0.03 -0.16	3.47 29.83	-0.17 -3.52

D30

## FFT COEFFICIENTS FOR DATA POINT 81

## FFT COEFFICIENTS FOR DATA POINT 82

HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL
DC	768.09 0.00	-15.68 0.00	-12.46 0.00	-0.34 0.00	-27.20 0.00	-65.50 0.00	DC	851.47 0.00	-11.21 0.00	-14.68 0.00	0.49 0.00	-25.63 0.00	-64.21 0.00
1 COS 1 SIN	4.54 21.25	4.10 -4.26	5.54 -1.58	-1.53 -1.21	-8.65 7.17	-0.34 -2.16	1 COS 1 SIN	4.43 22.14	9.27 -4.84	2.81 -1.12	-0.85 -0.55	-10.34 7.06	0.22 -9.59
2 COS 2 SIN	-9.61 -4.70	2.12 10.84	1.73 -2.28	0.43 -0.53	0.65 -12.81	1.58 6.36	2 COS 2 SIN	-14.01 -6.60	4.77 2.20	-1.94 0.52	-0.44 -0.16	0.20 -8.65	4.21 -0.89
3 COS 3 SIN	-2.22 -3.80	-2.06 -8.36	-0.34 -1.24	-0.26 0.22	0.56 -8.01	-1.07 2.81	3 COS 3 SIN	-5.90 9.13	20.13 -1.74	-0.90 -1.32	0.58 -0.47	8.51 -5.09	0.06 0.49
4 COS 4 SIN	11.09 -7.05	90.25 -63.57	-5.92 -10.93	0.57 0.61	18.29 24.49	0.75 -1.05	4 COS 4 SIN	-11.73 19.22	-14.20 -7.70	-2.77 1.62	0.41 0.54	4.77 -20.28	-1.27 -0.57
5 COS 5 SIN	7.17 -0.32	14.06 -33.69	-40.51 9.30	0.12 -0.54	-19.13 -10.29	2.66 -4.64	5 COS 5 SIN	-4.72 -3.78	-20.99 25.31	-44.27 17.46	0.21 0.61	-48.03 10.62	-1.00 3.26
6 COS 6 SIN	-3.97 -9.82	3.59 16.67	-7.54 4.43	0.07 0.18	0.37 17.79	-0.46 0.57	6 COS 6 SIN	-11.96 -8.84	11.58 10.24	9.58 3.42	0.42 -0.40	6.47 -0.75	-0.52 4.26
7 COS 7 SIN	7.93 5.34	10.91 15.47	-4.83 0.98	0.34 -0.22	1.65 2.63	3.11 3.20	7 COS 7 SIN	-4.22 1.44	29.02 33.13	1.95 -1.44	0.44 0.05	2.36 4.02	5.87 0.19
8 COS 8 SIN	4.70 -0.41	-10.90 -36.50	-1.96 -9.15	0.06 -0.14	-11.56 7.40	2.88 2.50	8 COS 8 SIN	-3.64 7.65	0.54 26.49	7.00 4.76	0.37 0.61	0.10 15.80	0.95 2.83
9 COS 9 SIN	2.18 13.86	31.07 -3.83	-1.61 6.74	-0.04 -0.47	16.92 -6.24	-0.70 -2.37	9 COS 9 SIN	-3.80 0.80	57.32 9.28	-1.59 -2.88	-0.49 -0.31	20.07 -6.19	-1.41 -0.03
10 COS 10 SIN	6.66 -6.44	-107.45 -10.28	-12.96 -0.24	0.86 0.30	-8.32 15.59	-0.05 2.63	10 COS 10 SIN	-1.91 3.37	8.07 88.40	-1.97 -3.00	0.55 -0.09	19.35 27.83	-1.99 4.56
11 COS 11 SIN	-1.17 -0.91	-30.60 -6.95	-17.33 -12.58	-0.07 0.14	10.37 3.49	1.58 -3.90	11 COS 11 SIN	2.62 0.39	22.43 -53.61	1.21 -9.45	-0.54 0.06	20.59 -28.47	-0.77 3.28
12 COS 12 SIN	-2.29 3.99	-79.08 19.19	12.14 6.26	0.52 -0.51	-27.33 -15.03	-2.38 -0.35	12 COS 12 SIN	-0.11 -1.03	-8.60 -50.58	0.20 13.14	-0.22 0.16	23.08 17.08	-0.02 5.20

D31

## FFT COEFFICIENTS FOR DATA POINT

83

## FFT COEFFICIENTS FOR DATA POINT

84

HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2FL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2FL
DC	894.16 0.00	-11.69 0.00	-13.30 0.00	-0.50 0.00	-29.70 0.00	-66.83 0.00	DC	819.42 0.00	-15.13 0.00	-14.16 0.00	0.03 0.00	-27.36 0.00	-67.70 0.00
1 COS 1 SIN	1.71 23.79	9.34 -7.17	3.66 -1.99	-0.58 -0.42	-12.19 5.22	2.67 -0.53	1 COS 1 SIN	2.11 20.90	4.13 -5.62	2.92 -1.29	-0.75 -1.05	-9.83 7.01	0.26 -2.91
2 COS 2 SIN	-9.24 0.73	8.81 0.76	1.22 -0.33	0.43 -0.40	0.21 -12.24	1.30 1.00	2 COS 2 SIN	-11.11 -0.68	4.73 3.22	0.12 0.31	0.18 -0.42	0.62 -10.60	-2.98 0.84
3 COS 3 SIN	-3.37 -1.42	27.48 2.72	0.08 -0.63	-0.54 0.86	4.95 -4.15	5.42 2.30	3 COS 3 SIN	-4.09 3.58	25.33 -1.32	0.96 -1.76	-0.23 0.30	8.59 -5.28	1.80 -0.50
4 COS 4 SIN	42.23 6.21	61.28 17.34	-6.52 -10.73	-0.55 0.09	-16.10 -10.39	0.15 2.64	4 COS 4 SIN	33.55 8.05	59.63 -52.09	-13.99 -8.37	0.07 1.54	1.36 12.57	2.21 -3.04
5 COS 5 SIN	2.23 -6.88	5.20 -18.43	-35.47 10.09	1.05 0.09	-23.37 -12.65	2.62 1.17	5 COS 5 SIN	3.49 -1.21	18.31 -45.06	-47.60 22.48	0.32 -0.08	-14.29 -16.01	3.98 -3.38
6 COS 6 SIN	-17.46 -2.71	-46.22 35.49	-8.80 1.39	0.08 0.24	-25.36 17.80	-1.50 1.80	6 COS 6 SIN	-10.54 -7.30	-9.42 27.57	1.07 -9.72	-0.82 0.73	-12.95 -2.68	-2.98 -2.64
7 COS 7 SIN	6.55 -6.86	10.52 33.26	5.59 -3.52	-0.03 -0.58	9.67 20.97	-5.38 1.59	7 COS 7 SIN	7.27 -1.32	18.00 1.63	4.94 -3.68	0.07 0.08	12.39 1.49	2.35 1.34
8 COS 8 SIN	-1.64 -0.99	-40.97 -68.39	-8.74 6.30	0.62 -0.70	-28.47 -34.86	3.17 -4.31	8 COS 8 SIN	9.69 -3.20	-27.47 -19.91	-4.60 -0.83	-0.88 0.50	-15.59 -5.36	8.38 -0.66
9 COS 9 SIN	9.57 -9.29	-23.95 -8.41	5.18 -6.69	0.58 0.31	-23.44 12.23	3.77 -3.04	9 COS 9 SIN	13.35 0.73	-3.70 -38.03	-3.05 1.71	-0.14 1.25	16.25 -2.17	-6.23 5.62
10 COS 10 SIN	-6.03 -0.18	-89.33 93.26	-4.26 3.67	1.28 -0.04	-24.14 18.52	0.61 -2.02	10 COS 10 SIN	-0.66 -3.83	-92.09 12.55	-15.94 0.44	-0.82 -0.50	-27.94 14.65	4.29 -1.87
11 COS 11 SIN	0.53 0.25	-87.35 -11.89	-22.82 -8.45	-0.05 0.16	-40.12 -7.42	5.65 2.50	11 COS 11 SIN	-5.34 -0.08	-48.06 31.01	0.35 19.16	0.56 -0.31	-3.64 39.81	-1.34 2.31
12 COS 12 SIN	2.68 1.18	-35.68 66.67	20.86 -5.63	-0.13 0.58	10.33 25.23	1.91 0.52	12 COS 12 SIN	2.13 4.76	-81.67 66.31	22.26 -9.34	1.51 -0.51	-25.99 -22.53	1.42 -2.89

## FFT COEFFICIENTS FOR DATA POINT

85

HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2RL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2RL
DC	767.57	-15.23	-14.68	0.65	-28.53	-70.48	DC	557.23	-16.59	-18.82	2.77	-30.40	-66.66
1 COS	4.71	3.72	1.41	-0.51	-16.21	2.46	1 COS	1.83	2.98	-2.24	0.41	-15.00	0.00
1 SIN	18.54	-4.04	0.52	-1.22	6.98	-6.34	1 SIN	23.58	-2.41	1.20	-0.10	5.68	-2.19
2 COS	-12.75	4.74	2.75	0.24	0.44	3.78	2 COS	-16.67	8.40	1.88	0.11	-4.25	-1.92
2 SIN	-4.80	-6.23	-6.53	-0.54	-12.86	1.44	2 SIN	6.64	-5.42	-5.05	0.38	-7.51	-1.51
3 COS	-2.52	31.54	3.52	0.04	10.54	6.16	3 COS	-11.91	24.15	-1.79	-0.03	4.81	2.89
3 SIN	6.45	-5.80	-5.83	-0.31	-7.45	2.13	3 SIN	2.62	-16.28	-2.32	0.17	-6.82	-1.58
4 COS	17.32	38.15	-13.20	0.00	-4.39	0.73	4 COS	-23.50	-46.27	-6.17	0.11	-12.96	0.12
4 SIN	-31.10	-54.59	-0.30	-0.20	-8.28	-2.10	4 SIN	-30.76	-21.47	9.51	0.10	1.82	-8.35
5 COS	6.09	-30.09	-46.78	-0.98	-43.77	6.41	5 COS	-2.16	-9.20	-50.48	0.09	-54.91	3.32
5 SIN	-11.14	-34.80	12.79	-0.01	-18.99	-0.30	5 SIN	-16.55	34.15	7.38	0.36	20.67	-2.55
6 COS	-17.71	30.40	-3.07	0.28	12.09	2.07	6 COS	-0.30	3.18	3.77	0.03	8.90	2.60
6 SIN	-7.41	14.08	6.94	0.69	16.46	0.29	6 SIN	14.56	-1.59	3.76	0.18	-1.29	1.58
7 COS	8.66	-6.14	2.65	-0.17	7.65	0.72	7 COS	-4.62	-9.19	-1.60	0.41	0.47	0.25
7 SIN	3.79	8.38	0.01	-0.31	-0.75	-1.53	7 SIN	7.61	5.01	2.34	-0.34	-4.97	-1.96
8 COS	-2.52	-48.31	-1.88	0.46	-22.51	-1.05	8 COS	-1.72	28.20	1.02	0.61	4.03	-1.88
8 SIN	-6.45	52.51	9.43	0.52	13.97	4.04	8 SIN	-2.34	5.50	0.67	-0.38	1.85	-0.90
9 COS	-3.00	20.54	-3.94	-0.55	21.60	1.63	9 COS	4.19	4.13	6.65	-0.26	-11.67	-0.84
9 SIN	-8.26	10.28	4.07	-0.36	-15.27	-0.39	9 SIN	6.30	23.71	0.22	-0.39	-0.68	1.91
10 COS	-2.02	-67.78	-5.21	-0.20	-9.57	1.54	10 COS	1.29	10.16	-0.90	-0.45	7.00	-0.48
10 SIN	-2.47	80.23	-1.22	-0.13	65.45	1.70	10 SIN	-1.80	14.81	-7.89	0.62	2.04	1.22
11 COS	-3.75	0.32	-0.78	-0.20	2.84	-3.47	11 COS	3.06	-4.97	22.98	0.47	13.30	-0.82
11 SIN	1.83	-3.97	6.14	-0.61	9.02	-1.03	11 SIN	-2.09	13.41	-7.08	-0.31	0.56	2.20
12 COS	2.53	0.97	2.01	0.93	-21.52	1.83	12 COS	0.87	21.53	-7.72	-0.21	-4.83	1.31
12 SIN	0.57	22.81	-6.36	0.36	10.92	-1.28	12 SIN	-3.59	-32.48	7.64	0.04	-4.71	7.29

## FFT COEFFICIENTS FOR DATA POINT

86

## FFT COEFFICIENTS FOR DATA POINT

87

HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACCS	N2BL
DC	673.34	-12.66	-19.65	3.81	-28.38	-66.58	DC	690.48	-16.76	-15.91	0.37	-28.66	-73.05
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 COS	4.22	7.03	-3.80	-0.08	-10.35	2.80	1 COS	1.79	4.17	2.05	-0.13	-8.51	5.55
1 SIN	20.48	-3.53	-0.56	0.02	6.67	0.42	1 SIN	19.64	-6.15	-1.24	-0.73	7.64	0.48
2 COS	-6.53	11.35	-0.60	0.02	0.34	4.84	2 COS	-9.43	-2.53	-4.32	-0.98	-4.78	2.81
2 SIN	10.21	-3.34	-3.27	0.18	-4.24	-1.22	2 SIN	-0.09	-0.70	-1.93	0.08	-7.14	-4.36
3 COS	11.78	15.57	-4.18	-0.83	1.98	5.39	3 COS	-4.33	21.24	1.51	-0.63	7.47	2.39
3 SIN	-1.80	-12.41	-5.07	-0.08	-4.24	-1.23	3 SIN	1.22	15.18	-3.44	-0.61	0.69	7.10
4 COS	34.54	33.33	6.20	0.54	-13.72	1.18	4 COS	41.54	28.87	-31.44	0.71	18.12	3.07
4 SIN	66.57	65.17	-11.26	0.99	20.23	-1.13	4 SIN	-67.00	-128.11	3.32	-0.11	31.40	-7.47
5 COS	-15.42	30.50	-52.24	0.83	-11.61	-0.38	5 COS	2.65	-7.86	-49.81	-0.52	-42.26	4.18
5 SIN	-13.53	10.31	17.85	0.13	4.73	-0.63	5 SIN	-5.31	23.59	23.64	-0.40	22.75	3.88
6 COS	1.84	32.21	8.22	0.44	19.69	-0.26	6 COS	-7.43	-18.77	5.42	0.58	-5.44	1.42
6 SIN	-4.32	-4.65	-2.99	0.25	-8.32	0.18	6 SIN	-4.03	9.37	-1.36	-0.18	-0.38	0.89
7 COS	-3.17	-13.00	0.57	0.11	-3.93	-1.17	7 COS	17.26	-26.21	-2.02	0.30	-8.11	-1.92
7 SIN	2.90	-5.08	-2.13	0.09	-0.80	1.66	7 SIN	4.58	-0.71	3.37	0.95	-0.50	-3.92
8 COS	3.66	29.75	-10.17	-0.33	31.05	-2.45	8 COS	2.24	-141.08	-4.37	-0.03	-35.01	-1.87
8 SIN	5.08	33.92	5.40	0.26	-12.90	0.97	8 SIN	-9.95	53.68	4.92	0.19	47.88	-5.15
9 COS	2.24	-14.96	4.52	-0.35	-35.84	2.21	9 COS	-0.24	-28.35	5.91	0.43	-24.50	3.96
9 SIN	-6.59	-29.61	-0.20	0.68	-21.59	-3.26	9 SIN	0.43	2.93	2.30	0.94	-20.41	1.92
10 COS	4.33	-33.97	-5.46	0.70	-20.96	-3.66	10 COS	-3.60	-14.64	20.21	-0.08	-17.76	0.69
10 SIN	-0.17	-23.49	-18.53	0.58	14.12	-0.13	10 SIN	3.86	81.24	-0.55	-0.28	-17.37	2.31
11 COS	-2.71	-18.20	-24.29	0.46	-10.18	-4.15	11 COS	0.93	-62.35	-1.17	0.00	-3.80	-2.98
11 SIN	-2.24	-11.17	1.82	-0.50	-17.30	-2.96	11 SIN	0.87	-30.14	-5.80	-0.40	-12.08	-1.80
12 COS	1.46	2.93	2.30	-0.69	-39.47	1.84	12 COS	3.43	-116.38	15.38	-0.75	-7.85	2.26
12 SIN	-0.21	68.22	-8.43	0.13	17.34	-3.77	12 SIN	2.01	-32.22	20.60	0.62	7.02	-3.66

D34

FFT COEFFICIENTS FOR DATA POINT 89						FFT COEFFICIENTS FOR DATA POINT 90							
HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL
DC	694.18 0.00	-13.28 0.00	-14.70 0.00	0.87 0.00	-26.13 0.00	-72.13 0.00	DC	635.14 0.00	-12.94 0.00	-15.95 0.00	0.19 0.00	-30.69 0.00	-74.05 0.00
1 COS 1 SIN	4.78 21.71	8.27 -3.68	3.75 0.70	-0.75 -0.79	-13.19 7.37	-2.59 -2.66	1 COS 1 SIN	2.99 21.12	6.41 -7.35	0.75 -2.47	-1.42 -0.84	-18.52 5.56	-1.22 2.84
2 COS 2 SIN	-9.65 -3.34	2.04 -3.50	-3.99 -3.95	-0.54 0.05	-0.65 -9.04	-6.18 2.34	2 COS 2 SIN	-9.58 -3.33	8.35 1.12	-1.21 -0.59	-0.64 0.33	-4.92 -8.03	0.54 1.26
3 COS 3 SIN	-4.83 8.98	21.70 -10.06	-1.10 -3.53	0.19 0.26	8.74 -7.85	-1.87 -0.89	3 COS 3 SIN	-5.82 -6.05	32.33 17.17	-3.86 -2.73	0.40 -0.30	4.98 -6.37	1.91 8.90
4 COS 4 SIN	-32.44 -3.57	11.19 -23.41	-1.86 2.83	-1.35 0.32	4.79 17.59	3.64 0.90	4 COS 4 SIN	-13.73 -0.90	33.30 10.24	14.79 3.42	-0.24 0.04	-37.79 12.06	3.21 -2.49
5 COS 5 SIN	-4.14 -4.76	-14.55 3.71	-48.44 28.53	0.02 -0.42	-36.92 6.51	0.19 6.08	5 COS 5 SIN	0.06 0.75	22.39 -23.17	-39.01 13.70	0.03 -0.25	-22.24 -11.09	3.28 -1.52
6 COS 6 SIN	-11.30 -13.22	26.54 21.11	5.27 -6.48	0.45 0.51	6.84 0.58	2.19 -0.08	6 COS 6 SIN	-13.16 -15.68	21.05 21.72	-7.01 4.44	0.34 0.53	-0.70 8.69	-1.69 -4.33
7 COS 7 SIN	-2.54 2.26	29.60 34.32	1.23 -1.79	0.30 -0.16	5.38 6.13	-2.78 -1.29	7 COS 7 SIN	-3.99 5.65	16.09 23.83	0.03 1.22	0.16 -0.39	-1.53 12.57	-2.74 1.24
8 COS 8 SIN	-5.97 6.27	-35.59 24.51	-7.04 4.81	-0.38 -0.12	-12.70 7.14	-6.59 1.28	8 COS 8 SIN	1.66 -7.54	5.26 -16.79	-2.18 -2.12	-0.06 -0.44	-5.29 -2.99	-3.75 1.90
9 COS 9 SIN	2.70 -5.32	38.03 -27.78	0.51 -0.08	0.52 -0.97	3.03 -33.99	-1.30 1.62	9 COS 9 SIN	3.76 -1.43	12.26 -11.66	5.35 -0.55	0.04 -0.55	-14.93 -17.48	-2.60 1.32
10 COS 10 SIN	-3.98 0.62	31.56 96.62	3.75 -4.67	-0.51 0.31	15.74 35.25	0.91 -0.94	10 COS 10 SIN	-0.59 -2.29	-54.00 72.89	-5.33 -4.06	0.14 0.32	-7.72 46.84	-1.20 1.76
11 COS 11 SIN	1.48 -4.00	25.25 -32.54	-19.94 -3.44	-0.53 -0.58	-2.99 21.55	-2.34 1.61	11 COS 11 SIN	-2.18 -2.17	-7.73 -50.60	-40.28 -29.25	-0.28 0.12	-24.65 6.04	-0.93 0.39
12 COS 12 SIN	-0.12 0.43	47.49 -20.41	-3.25 1.16	0.75 0.22	15.56 4.74	-2.17 0.30	12 COS 12 SIN	0.13 -0.06	-25.46 46.82	19.46 3.08	-0.19 0.13	8.03 -3.55	-0.35 -1.02

D35

FFT COEFFICIENTS FOR DATA POINT 91						FFT COEFFICIENTS FOR DATA POINT 92							
HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL
0C	764.10	-12.41	-16.59	-0.20	-27.84	-79.14	0C	816.88	-15.24	-13.84	0.45	-30.58	-80.23
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 COS	0.20	5.69	0.50	-0.48	-17.55	-2.55	1 COS	1.10	4.27	2.63	-0.85	-15.42	4.03
1 SIN	22.03	-5.95	0.57	-0.68	7.15	-2.75	1 SIN	20.68	-4.80	0.88	-0.67	7.32	-6.02
2 COS	-11.47	18.16	3.24	-0.07	-1.74	3.10	2 COS	-10.60	14.20	3.36	-0.56	-1.06	-0.11
2 SIN	-2.43	-8.79	-5.75	0.43	-7.42	-0.08	2 SIN	3.30	-11.99	-8.53	-0.99	-8.30	-1.84
3 COS	-9.54	28.37	3.71	0.19	10.04	-1.78	3 COS	0.69	43.40	4.51	-0.01	11.56	1.99
3 SIN	-0.81	13.66	0.44	0.59	-0.88	3.71	3 SIN	-0.33	10.75	-8.18	0.06	-4.90	6.32
4 COS	-25.94	11.83	10.86	-0.03	-32.79	2.33	4 COS	61.95	10.48	-10.04	0.23	-21.62	7.62
4 SIN	-22.18	12.49	10.21	-0.67	8.56	-6.37	4 SIN	2.60	-49.58	-4.14	0.16	-23.31	-6.50
5 COS	-1.13	33.51	-41.50	0.06	-8.57	4.84	5 COS	5.50	-20.97	-39.00	-0.31	-29.75	1.95
5 SIN	-1.37	5.00	21.65	-0.71	10.38	0.02	5 SIN	-0.80	-17.15	13.16	0.44	-9.28	2.35
6 COS	11.47	11.89	-0.67	0.08	-0.02	-1.40	6 COS	-15.55	1.24	-8.34	-0.14	-7.62	1.00
6 SIN	-16.37	9.22	-11.46	0.52	-1.66	0.13	6 SIN	-11.94	3.22	-0.61	0.97	7.30	-2.89
7 COS	0.36	15.92	4.36	0.02	5.58	3.07	7 COS	10.56	-14.01	0.53	-0.01	-4.77	-1.99
7 SIN	1.72	58.12	-1.97	0.26	22.03	-2.34	7 SIN	8.53	9.20	3.62	-0.70	20.60	-0.87
8 COS	0.49	5.34	-0.66	0.24	-5.84	0.82	8 COS	8.85	27.13	-5.94	-0.29	20.82	-0.02
8 SIN	-0.37	-31.51	-4.29	-0.10	-4.67	1.95	8 SIN	-5.88	-2.59	-3.79	-0.19	5.17	1.58
9 COS	-1.78	12.34	2.09	0.26	5.43	-2.82	9 COS	-0.36	-52.07	-1.91	0.28	-3.04	-1.68
9 SIN	9.55	8.15	4.11	0.02	-11.84	-4.72	9 SIN	5.35	38.96	0.26	0.54	39.33	-4.12
10 COS	-1.45	-62.92	-3.71	-0.99	-0.47	2.43	10 COS	1.10	-53.55	-7.37	0.01	-24.81	-0.34
10 SIN	-1.09	58.41	-5.83	0.15	40.01	2.61	10 SIN	-5.53	6.97	-6.80	-0.60	-2.50	0.71
11 COS	0.53	34.11	1.71	0.12	-9.23	-1.14	11 COS	-0.97	2.30	0.50	0.31	16.96	2.90
11 SIN	-0.22	-51.94	-8.09	0.01	10.72	-2.32	11 SIN	0.89	30.35	-17.75	1.05	-26.64	0.36
12 COS	3.93	2.39	-4.86	-0.12	-8.91	-0.57	12 COS	3.87	-15.38	5.56	0.79	-0.67	-3.14
12 SIN	-1.41	23.89	-4.85	-0.18	-8.92	-2.48	12 SIN	3.25	12.54	12.61	0.15	15.82	-2.62

## FFT COEFFICIENTS FOR DATA POINT

93

HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL
DC	660.38 0.00	-11.30 0.00	-16.52 0.00	0.36 0.00	-28.31 0.00	-77.57 0.00	DC	790.32 0.00	-13.59 0.00	-16.10 0.00	0.67 0.00	-27.83 0.00	-63.98 0.00
1 COS 1 SIN	0.09 19.21	8.33 -8.00	0.47 -1.56	-0.99 -0.28	-12.73 7.01	-2.42 -8.81	1 COS 1 SIN	0.22 20.81	6.13 -6.74	0.58 -1.55	-1.58 -0.87	-12.60 5.37	1.09 -2.92
2 COS 2 SIN	-13.66 2.74	10.39 -9.73	-4.39 0.54	0.69 -0.70	-3.08 -3.84	2.23 -3.85	2 COS 2 SIN	-14.96 -1.14	11.31 -4.42	1.96 -0.28	-0.39 -0.56	-1.09 -8.82	4.10 1.12
3 COS 3 SIN	-13.54 -1.52	49.50 2.73	-2.88 -0.49	-0.17 -0.15	9.65 -2.03	5.87 -0.90	3 COS 3 SIN	-6.22 7.52	36.91 -16.01	-0.43 -2.27	0.31 0.17	9.24 -10.78	2.48 2.83
4 COS 4 SIN	15.66 32.41	12.60 30.35	2.44 -6.85	-0.20 0.63	-18.80 -6.96	5.71 -0.06	4 COS 4 SIN	-7.26 12.37	-31.38 -33.05	0.14 6.40	0.24 0.34	7.23 -10.16	-0.39 -3.59
5 COS 5 SIN	2.99 -2.64	-10.97 15.65	-49.40 21.25	0.87 1.00	-35.91 4.11	2.71 3.16	5 COS 5 SIN	-2.81 -2.18	-46.91 3.01	-38.42 37.74	-0.10 0.43	-38.22 5.96	2.32 -1.27
6 COS 6 SIN	-15.35 -6.75	-13.71 21.07	7.82 -5.72	0.38 -0.18	-0.54 -3.95	3.64 -0.52	6 COS 6 SIN	-17.71 -7.22	11.46 1.43	-2.79 -8.85	0.05 0.07	-8.48 -5.02	-2.29 0.80
7 COS 7 SIN	6.92 9.23	29.28 18.86	0.40 1.24	0.35 -0.36	5.41 12.60	-0.83 4.16	7 COS 7 SIN	1.51 3.15	11.00 37.49	-0.54 1.82	0.41 -0.14	-2.87 7.77	0.86 5.19
8 COS 8 SIN	4.49 1.51	13.28 38.77	0.50 0.58	-0.18 0.27	14.80 6.27	1.04 2.93	8 COS 8 SIN	1.81 0.59	2.41 44.54	7.56 0.94	0.16 0.02	-2.31 17.73	-1.01 -0.56
9 COS 9 SIN	7.05 0.70	-34.33 -50.98	0.02 1.07	-0.20 0.33	-24.71 -17.65	-1.03 -0.31	9 COS 9 SIN	-5.99 4.28	-1.38 -5.13	-1.09 5.13	-0.74 0.50	-14.18 -9.66	2.27 3.93
10 COS 10 SIN	-6.49 0.64	-16.29 105.28	-0.66 3.99	-0.72 0.04	12.82 22.68	-1.15 -1.53	10 COS 10 SIN	4.52 -3.14	-4.85 56.44	3.26 -7.50	-0.26 -0.73	-4.83 34.76	1.68 2.36
11 COS 11 SIN	-2.41 -0.98	3.29 -28.61	-30.58 4.01	-0.53 -0.20	-14.13 -2.96	3.40 4.29	11 COS 11 SIN	2.11 -2.27	33.29 -33.02	6.75 1.72	0.22 0.03	-8.06 5.17	-1.78 0.05
12 COS 12 SIN	-0.04 -4.11	-88.81 84.21	31.13 -0.28	0.40 -0.11	-31.25 28.85	-1.50 -2.00	12 COS 12 SIN	3.11 -2.42	-33.16 10.25	7.85 0.93	0.00 -0.15	-6.79 -2.51	4.62 2.04

## FFT COEFFICIENTS FOR DATA POINT

94

HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL
DC	660.38 0.00	-11.30 0.00	-16.52 0.00	0.36 0.00	-28.31 0.00	-77.57 0.00	DC	790.32 0.00	-13.59 0.00	-16.10 0.00	0.67 0.00	-27.83 0.00	-63.98 0.00
1 COS 1 SIN	0.09 19.21	8.33 -8.00	0.47 -1.56	-0.99 -0.28	-12.73 7.01	-2.42 -8.81	1 COS 1 SIN	0.22 20.81	6.13 -6.74	0.58 -1.55	-1.58 -0.87	-12.60 5.37	1.09 -2.92
2 COS 2 SIN	-13.66 2.74	10.39 -9.73	-4.39 0.54	0.69 -0.70	-3.08 -3.84	2.23 -3.85	2 COS 2 SIN	-14.96 -1.14	11.31 -4.42	1.96 -0.28	-0.39 -0.56	-1.09 -8.82	4.10 1.12
3 COS 3 SIN	-13.54 -1.52	49.50 2.73	-2.88 -0.49	-0.17 -0.15	9.65 -2.03	5.87 -0.90	3 COS 3 SIN	-6.22 7.52	36.91 -16.01	-0.43 -2.27	0.31 0.17	9.24 -10.78	2.48 2.83
4 COS 4 SIN	15.66 32.41	12.60 30.35	2.44 -6.85	-0.20 0.63	-18.80 -6.96	5.71 -0.06	4 COS 4 SIN	-7.26 12.37	-31.38 -33.05	0.14 6.40	0.24 0.34	7.23 -10.16	-0.39 -3.59
5 COS 5 SIN	2.99 -2.64	-10.97 15.65	-49.40 21.25	0.87 1.00	-35.91 4.11	2.71 3.16	5 COS 5 SIN	-2.81 -2.18	-46.91 3.01	-38.42 37.74	-0.10 0.43	-38.22 5.96	2.32 -1.27
6 COS 6 SIN	-15.35 -6.75	-13.71 21.07	7.82 -5.72	0.38 -0.18	-0.54 -3.95	3.64 -0.52	6 COS 6 SIN	-17.71 -7.22	11.46 1.43	-2.79 -8.85	0.05 0.07	-8.48 -5.02	-2.29 0.80
7 COS 7 SIN	6.92 9.23	29.28 18.86	0.40 1.24	0.35 -0.36	5.41 12.60	-0.83 4.16	7 COS 7 SIN	1.51 3.15	11.00 37.49	-0.54 1.82	0.41 -0.14	-2.87 7.77	0.86 5.19
8 COS 8 SIN	4.49 1.51	13.28 38.77	0.50 0.58	-0.18 0.27	14.80 6.27	1.04 2.93	8 COS 8 SIN	1.81 0.59	2.41 44.54	7.56 0.94	0.16 0.02	-2.31 17.73	-1.01 -0.56
9 COS 9 SIN	7.05 0.70	-34.33 -50.98	0.02 1.07	-0.20 0.33	-24.71 -17.65	-1.03 -0.31	9 COS 9 SIN	-5.99 4.28	-1.38 -5.13	-1.09 5.13	-0.74 0.50	-14.18 -9.66	2.27 3.93
10 COS 10 SIN	-6.49 0.64	-16.29 105.28	-0.66 3.99	-0.72 0.04	12.82 22.68	-1.15 -1.53	10 COS 10 SIN	4.52 -3.14	-4.85 56.44	3.26 -7.50	-0.26 -0.73	-4.83 34.76	1.68 2.36
11 COS 11 SIN	-2.41 -0.98	3.29 -28.61	-30.58 4.01	-0.53 -0.20	-14.13 -2.96	3.40 4.29	11 COS 11 SIN	2.11 -2.27	33.29 -33.02	6.75 1.72	0.22 0.03	-8.06 5.17	-1.78 0.05
12 COS 12 SIN	-0.04 -4.11	-88.81 84.21	31.13 -0.28	0.40 -0.11	-31.25 28.85	-1.50 -2.00	12 COS 12 SIN	3.11 -2.42	-33.16 10.25	7.85 0.93	0.00 -0.15	-6.79 -2.51	4.62 2.04

FFT COEFFICIENTS FOR DATA POINT 95						FFT COEFFICIENTS FOR DATA POINT 96						
HARMONIC	ACC1	ACC2	ACC3	PLL1	N2BL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL
0C	635.70 0.00	-11.64 0.00	-15.16 0.00	-0.61 0.00	-27.34 0.00	-65.63 0.00	DC 0.00	566.52 0.00	-12.63 0.00	-17.54 0.00	-0.47 0.00	-30.72 0.00
1 COS 1 SIN	-0.13 -4.86	8.45 -1.18	1.85 -0.35	-0.82 9.56	-5.66 -0.10	5.92 0.00	1 COS 1 SIN	4.18 21.74	7.52 -4.60	-2.10 0.55	-0.81 -0.18	-12.54 5.97
2 COS 2 SIN	-9.69 -3.50	6.74 -2.97	-3.37 -0.39	0.86 -10.86	-2.92 -0.54	1.90 0.00	2 COS 2 SIN	-11.56 -0.64	13.04 -3.15	1.73 -5.38	-0.39 0.05	-0.16 -10.25
3 COS 3 SIN	-6.73 -3.75	31.51 14.29	-0.01 -5.85	0.05 0.44	15.39 1.11	-2.08 -0.17	3 COS 3 SIN	-6.38 0.05	45.65 1.14	0.89 -6.14	0.01 0.49	13.75 -5.45
4 COS 4 SIN	62.51 12.01	166.03 -50.54	-24.19 -21.11	0.76 2.41	14.44 21.34	9.99 -3.60	4 COS 4 SIN	-10.31 -53.89	-21.26 -81.17	-18.98 14.04	0.76 -0.56	16.63 9.87
5 COS 5 SIN	-3.64 -5.35	19.25 -27.25	-48.92 28.79	1.19 -0.69	-30.54 0.82	1.94 -0.21	5 COS 5 SIN	-9.24 -16.85	-12.79 2.60	-44.59 32.50	0.08 -0.46	-31.83 10.49
6 COS 6 SIN	-12.75 -16.84	36.39 32.72	5.25 -7.57	-0.28 0.48	6.91 -7.47	-0.81 -1.20	6 COS 6 SIN	-6.26 11.27	15.25 -11.23	3.75 -8.36	-0.07 1.07	-0.14 -10.90
7 COS 7 SIN	11.44 8.01	13.73 23.99	0.27 -5.11	-0.17 -0.12	-12.88 7.21	-3.42 -2.05	7 COS 7 SIN	0.26 -7.71	-39.40 19.13	1.54 -0.05	-0.55 -0.52	-3.16 0.33
8 COS 8 SIN	11.86 0.53	-74.23 36.80	33.09 -9.73	-0.36 0.16	-70.81 45.37	1.55 -1.93	8 COS 8 SIN	4.26 -9.97	27.90 98.79	10.95 -7.27	0.36 0.36	14.42 32.62
9 COS 9 SIN	-7.38 -15.66	-30.24 0.42	-1.42 -0.23	0.00 0.30	14.00 0.64	2.12 -0.63	9 COS 9 SIN	-5.69 -2.71	-39.81 41.47	0.35 -7.77	0.70 0.23	-18.72 5.63
10 COS 10 SIN	4.20 -2.71	66.96 -84.32	-1.84 -21.04	-0.84 0.38	14.38 -14.08	-1.96 0.52	10 COS 10 SIN	7.65 4.23	129.29 -70.82	2.26 -38.57	0.97 0.57	-7.08 5.41
11 COS 11 SIN	-6.36 -1.29	-2.45 11.79	-11.40 1.71	0.90 -0.15	-8.72 -14.05	0.83 -3.66	11 COS 11 SIN	2.65 0.62	-1.61 107.64	15.38 12.85	-0.29 -0.72	0.52 8.02
12 COS 12 SIN	1.75 -0.80	97.25 -136.39	-19.78 -1.22	-0.44 -0.22	9.80 -58.68	-1.75 0.89	12 COS 12 SIN	-0.02 0.15	-101.37 1.23	14.34 14.24	-0.76 0.16	9.10 11.43

D3C

FFT COEFFICIENTS FOR DATA POINT 97						FFT COEFFICIENTS FOR DATA POINT 98							
HARMONIC	AC1	AC2	AC3	PLL1	ACCS	N2BL	HARMONIC	AC1	AC2	AC3	PLL1	ACCS	N2BL
DC	735.67	-14.56	-19.77	1.02	-32.44	-64.55	DC	715.44	-11.22	-13.29	0.27	-26.54	-69.35
1 COS	8.14	6.02	-4.30	-0.53	-9.55	-0.52	1 COS	6.53	10.78	4.39	-0.52	-9.64	-1.73
1 SIN	23.12	-5.78	0.02	-0.74	7.74	-5.11	1 SIN	18.62	-2.47	1.79	-1.03	6.27	-2.80
2 COS	-6.80	10.75	0.53	0.19	-0.72	1.47	2 COS	-11.59	10.39	-0.31	0.07	0.50	5.15
2 SIN	-1.36	0.86	-4.59	-0.21	-7.00	2.13	2 SIN	-0.40	-1.03	-7.17	0.39	-13.03	-0.17
3 COS	-2.85	39.65	-1.22	1.01	11.68	-0.40	3 COS	-3.64	38.79	-1.24	-0.47	10.66	2.82
3 SIN	0.56	18.39	-6.52	-0.14	0.51	7.06	3 SIN	1.27	6.63	-4.71	-0.08	-4.33	4.20
4 COS	-4.48	-23.38	-29.69	1.40	23.64	0.96	4 COS	19.57	-21.57	-10.42	0.50	25.36	-1.75
4 SIN	-81.47	-207.93	23.12	0.04	1.77	-7.01	4 SIN	-23.35	-96.79	2.32	-0.47	-4.28	-5.75
5 COS	-1.88	14.66	-45.19	-1.61	-29.32	2.56	5 COS	2.87	-19.37	-30.50	-0.06	-31.07	7.32
5 SIN	-5.80	-20.00	36.00	-0.52	21.92	2.42	5 SIN	2.42	1.41	25.85	0.02	0.99	1.36
6 COS	-2.69	36.68	1.30	0.94	0.01	-3.23	6 COS	-15.20	8.65	-8.29	0.32	-1.76	1.63
6 SIN	5.25	-13.07	-2.20	0.84	1.55	3.76	6 SIN	-5.11	-11.68	-2.21	-0.20	-3.99	0.46
7 COS	7.96	-49.12	-2.97	0.42	-18.83	-3.59	7 COS	9.84	-40.39	0.41	-0.50	-14.24	0.36
7 SIN	-8.18	-50.23	6.50	0.07	-13.34	-0.93	7 SIN	0.45	7.12	2.41	0.97	-2.01	0.91
8 COS	-3.77	76.96	-22.50	-0.27	62.69	0.77	8 COS	-1.61	-19.21	1.19	0.08	0.78	0.30
8 SIN	-4.83	13.55	-3.32	-0.02	-10.34	-2.42	8 SIN	-11.09	77.17	-2.24	-0.34	32.04	3.27
9 COS	-0.04	-27.11	8.01	-0.15	-38.55	-0.36	9 COS	1.87	-7.64	10.25	0.21	-19.49	-0.54
9 SIN	0.22	8.77	-5.84	0.25	3.13	0.60	9 SIN	-6.64	27.70	-10.43	-0.07	10.48	1.04
10 COS	3.54	66.92	3.45	-0.77	-16.46	2.20	10 COS	3.92	68.73	0.36	-0.50	-19.31	-5.05
10 SIN	5.43	32.46	-22.40	-0.24	31.37	-1.98	10 SIN	-1.71	-51.36	-25.21	0.01	5.38	0.13
11 COS	3.21	-75.39	-3.35	0.06	25.98	1.12	11 COS	1.30	-41.21	22.51	0.42	-30.71	0.96
11 SIN	0.96	50.35	22.11	0.36	8.35	0.91	11 SIN	-0.32	104.73	-6.34	0.76	-9.33	-9.13
12 COS	-1.80	-59.40	13.15	-0.20	-5.06	2.24	12 COS	2.38	-24.30	-1.55	-0.13	15.83	0.62
12 SIN	-0.65	31.83	12.28	-0.68	-44.76	-2.03	12 SIN	0.11	-22.83	12.41	0.68	-2.74	-2.27

D39

## FFT COEFFICIENTS FOR DATA POINT 99

## FFT COEFFICIENTS FOR DATA POINT 100

HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL
DC	828.80	-12.17	-14.46	0.98	-31.81	-64.48	DC	678.69	-13.32	-15.34	0.56	-28.19	-65.91
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 COS	3.67	10.82	2.96	-0.99	-11.14	-1.43	1 COS	4.03	6.86	1.70	-0.87	-12.64	-4.57
1 SIN	20.69	-5.49	-1.17	-1.54	3.05	-4.79	1 SIN	19.34	-2.69	1.99	0.14	2.72	-4.99
2 COS	-9.20	3.61	-1.89	-0.33	-2.80	2.03	2 COS	-10.56	5.48	-1.58	-0.39	3.32	-0.83
2 SIN	0.51	2.38	-1.15	-0.39	-9.24	-1.05	2 SIN	-0.60	-5.47	-5.92	-0.33	-15.07	-0.40
3 COS	-12.74	61.81	-1.60	-0.42	15.65	7.02	3 COS	-2.93	44.79	-3.17	0.55	16.08	3.65
3 SIN	2.91	11.37	-6.67	0.35	-7.79	7.30	3 SIN	-6.27	7.18	-5.45	0.99	-7.70	5.81
4 COS	-0.19	-79.22	-17.10	1.10	5.52	-0.37	4 COS	-1.56	-2.73	1.14	0.57	-11.01	-4.65
4 SIN	-52.83	-120.63	15.29	-0.51	-22.97	-8.10	4 SIN	-42.54	-5.01	9.43	-0.35	-1.55	-3.95
5 COS	-5.54	-27.53	-44.85	-1.18	-42.92	6.04	5 COS	4.65	7.27	-34.83	0.60	-22.69	-1.55
5 SIN	-8.73	9.32	23.84	0.54	14.24	-4.10	5 SIN	-10.64	12.50	13.04	-0.84	1.73	-1.81
6 COS	-5.73	-10.48	2.49	0.29	3.75	1.31	6 COS	-7.51	28.82	-6.48	-0.42	8.77	-0.06
6 SIN	-0.18	20.65	8.02	0.49	7.91	1.81	6 SIN	-0.19	30.26	-4.13	0.22	16.39	-1.98
7 COS	-6.31	-21.24	-4.39	0.24	6.51	1.62	7 COS	6.06	7.02	-0.56	0.57	8.14	-2.84
7 SIN	-7.72	-24.42	-7.60	0.36	-11.41	-1.07	7 SIN	-6.87	35.11	-0.20	-0.28	15.20	-3.99
8 COS	-0.17	0.91	-6.20	-0.71	-6.00	3.76	8 COS	-1.15	-27.19	-6.39	-0.16	-16.24	-0.89
8 SIN	1.31	-20.76	22.42	-0.28	-33.47	-0.34	8 SIN	0.26	27.28	4.89	0.14	24.23	0.33
9 COS	-4.67	-106.97	13.46	0.69	-48.63	0.60	9 COS	-5.82	-42.90	0.17	-0.09	-19.99	-0.62
9 SIN	-11.18	106.79	-0.69	0.76	33.19	-0.45	9 SIN	-12.01	9.85	-7.59	0.08	-0.74	2.38
10 COS	5.64	216.77	19.59	-0.30	-3.99	-6.75	10 COS	4.54	33.55	-8.32	-0.49	-2.93	-2.76
10 SIN	7.97	-33.84	-43.20	-0.09	21.92	-1.19	10 SIN	-5.11	-71.19	-23.38	-0.22	-5.42	-0.76
11 COS	1.44	-39.51	62.22	-0.24	23.01	-3.49	11 COS	0.00	14.91	-2.22	0.07	6.65	1.47
11 SIN	2.77	126.18	25.74	-1.04	7.96	0.15	11 SIN	0.65	37.04	-30.33	-0.62	7.08	3.36
12 COS	-0.63	74.12	-25.57	-0.13	-22.10	0.31	12 COS	-2.14	-56.05	0.60	-0.30	-12.64	1.02
12 SIN	-5.06	-22.25	7.59	0.45	21.61	0.54	12 SIN	-2.73	-46.17	24.51	-0.14	4.48	1.85

D4C

## FFT COEFFICIENTS FOR DATA POINT 101

## FFT COEFFICIENTS FOR DATA POINT 102

HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL
1C	787.84 0.00	-14.10 20.46	-16.26 -5.05	0.80 0.00	-31.74 -1.09	-72.63 -4.91	1C	783.73 0.00	-13.98 -0.88	-16.66 2.64	1.63 -0.12	-29.12 -4.10	-71.09 -9.16
1 COS 1 SIN	4.58 20.46	6.42 -5.05	0.57 -1.35	-1.66 -1.09	-10.97 4.92	-1.06 -4.91	1 COS 1 SIN	-0.56 23.92	8.20 -0.88	0.26 2.64	-0.87 -0.12	-11.38 4.10	-2.20 -9.16
2 COS 2 SIN	-8.53 -1.36	6.54 3.74	1.94 0.19	0.20 0.13	-1.14 -6.85	1.77 0.33	2 COS 2 SIN	-12.40 -1.15	11.30 -2.04	1.25 -6.31	-0.58 0.55	-2.41 -10.84	1.37 -0.61
3 COS 3 SIN	-4.18 -3.59	41.36 14.28	1.49 -6.26	0.25 0.55	11.82 -4.09	0.23 2.01	3 COS 3 SIN	-12.72 2.78	40.79 -4.32	-3.94 -2.66	0.08 1.17	10.07 -5.51	5.18 -1.30
4 COS 4 SIN	3.22 -45.49	28.27 -117.18	-18.04 9.01	0.78 0.64	26.89 0.96	-1.99 -2.23	4 COS 4 SIN	-54.28 -47.43	-78.90 -7.59	8.08 17.40	-0.01 -0.76	3.15 7.21	-5.04 0.49
5 COS 5 SIN	-3.07 -2.64	12.60 -0.31	-40.26 24.11	-0.19 -0.41	-17.79 4.54	-0.24 5.11	5 COS 5 SIN	-5.35 -10.84	15.59 32.64	-35.43 24.60	-0.32 0.65	-21.90 22.17	5.24 2.04
6 COS 6 SIN	-1.48 -6.27	-22.45 4.66	-10.48 -1.00	0.18 0.09	-14.42 7.56	-2.90 2.33	6 COS 6 SIN	6.72 11.24	-15.68 23.18	-0.59 -10.61	0.19 0.48	-18.53 3.72	3.40 -3.07
7 COS 7 SIN	-1.07 -3.23	-17.17 -6.77	-5.46 2.17	-0.34 0.03	-8.04 6.35	2.88 0.14	7 COS 7 SIN	-14.90 4.38	4.00 6.50	-3.41 -10.25	0.61 -1.45	1.90 -13.68	3.91 -0.36
8 COS 8 SIN	4.06 0.98	-6.87 134.22	-2.14 -2.30	-0.44 -0.35	34.16 59.09	-0.08 -5.09	8 COS 8 SIN	-9.72 -3.19	-36.37 23.45	4.82 5.49	0.68 0.14	-31.60 5.04	-0.59 -0.09
9 COS 9 SIN	-5.88 -3.94	-26.07 -19.93	2.12 -5.13	-0.02 -0.12	-24.76 -16.29	2.72 4.68	9 COS 9 SIN	-3.74 -1.07	107.52 59.25	4.33 -9.40	-0.06 0.64	26.79 8.78	-1.36 1.00
10 COS 10 SIN	-2.11 1.11	66.81 63.59	13.24 -17.51	-0.17 0.13	-17.85 23.49	-0.21 -0.92	10 COS 10 SIN	8.32 -7.72	-141.46 -158.56	-38.43 -11.61	-0.86 0.27	-12.64 -5.75	4.51 7.55
11 COS 11 SIN	1.37 -0.07	-91.56 -2.92	1.61 -8.24	-0.11 -0.39	-6.26 -33.79	-1.72 5.94	11 COS 11 SIN	3.78 -2.49	100.23 -27.72	8.19 4.30	0.00 -0.79	18.86 16.63	-3.58 5.76
12 COS 12 SIN	-2.37 3.18	-72.10 87.93	18.48 3.11	0.06 -0.26	26.62 36.95	1.37 1.41	12 COS 12 SIN	1.24 5.22	-137.71 72.98	30.28 -0.37	0.49 0.40	-19.04 -10.51	3.10 -3.12

FEET COEFFICIENTS FOR DATA POINT 103

HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL
HC	652.70 0.00	-11.79 0.00	-14.63 0.00	2.05 0.00	-26.92 0.00	-81.32 0.00	DC	831.68 0.00	-15.06 0.00	-16.06 0.00	1.78 0.00	-33.73 0.00	-69.37 0.00
1 COS 1 SIN	2.82 20.23	7.03 -4.93	1.79 -1.16	-0.83 0.23	-8.88 7.11	1.68 1.28	1 COS 1 SIN	1.49 20.76	5.11 -3.37	-0.06 -0.67	-1.53 -1.08	-17.42 3.14	1.13 -1.64
2 COS 2 SIN	-6.01 2.43	0.99 0.52	-1.55 1.93	-0.03 0.44	-0.80 -5.58	-0.47 -0.30	2 COS 2 SIN	-13.98 -3.22	11.91 2.30	3.44 -1.16	-0.30 -0.86	-0.46 -8.82	0.55 1.32
3 COS 3 SIN	-2.82 -3.45	35.25 -11.36	-3.24 -3.82	-0.02 0.24	13.02 -6.03	4.32 1.61	3 COS 3 SIN	-7.65 -9.32	29.35 7.64	-0.97 -4.29	-0.19 -0.44	7.72 -10.08	9.19 6.98
4 COS 4 SIN	-6.41 -28.26	68.25 -36.74	-11.19 3.06	0.19 -0.15	11.17 36.87	0.17 -3.24	4 COS 4 SIN	15.55 9.81	-17.35 -89.75	-3.13 -6.70	0.63 0.28	11.64 -3.24	-1.12 -8.07
5 COS 5 SIN	-8.54 -10.56	39.33 5.40	-49.38 27.20	-0.82 -1.40	-15.81 13.05	0.55 0.60	5 COS 5 SIN	0.48 -8.05	5.94 -11.76	-37.17 24.87	-0.90 -0.45	-24.43 2.12	2.88 -0.70
6 COS 6 SIN	3.28 -10.35	-17.63 -9.31	2.16 -4.91	0.28 0.30	-9.59 -11.77	-3.84 2.63	6 COS 6 SIN	-8.03 0.95	-43.36 29.94	-7.97 2.62	-0.16 -0.07	-15.12 -17.14	-1.14 0.19
7 COS 7 SIN	1.38 4.25	15.70 4.38	1.64 -0.65	-0.54 -0.42	9.11 3.28	4.36 -4.20	7 COS 7 SIN	-0.43 -3.68	4.93 15.14	0.95 -0.38	-0.25 0.23	3.84 6.06	2.77 -0.05
8 COS 8 SIN	4.98 -3.02	4.84 78.71	10.69 -22.85	-0.58 0.22	12.32 68.99	-3.68 -0.42	8 COS 8 SIN	3.34 0.32	-27.71 15.64	-0.74 4.92	0.34 -0.04	-8.06 6.13	2.11 -3.56
9 COS 9 SIN	1.99 -3.22	-37.55 11.22	0.53 -3.56	-0.44 0.25	-5.63 -5.04	0.25 -3.47	9 COS 9 SIN	0.94 -11.62	-28.88 -0.73	2.16 -4.67	-0.07 0.08	-31.08 -4.24	-1.52 5.32
10 COS 10 SIN	-0.96 -3.79	-81.27 18.10	-3.98 -2.86	-0.27 0.34	-23.90 6.56	3.89 -0.78	10 COS 10 SIN	2.12 2.11	40.42 23.85	9.87 -19.25	-0.35 -0.36	-15.34 -16.33	-4.58 -0.18
11 COS 11 SIN	-5.54 -0.06	-18.16 -41.63	-10.05 14.98	0.58 -0.67	17.71 9.43	-4.18 3.41	11 COS 11 SIN	-0.07 1.60	-61.97 34.75	3.24 -0.15	0.09 -0.35	0.48 -13.48	-3.74 1.82
12 COS 12 SIN	-2.25 1.11	-5.05 -48.06	-1.54 12.30	0.52 0.15	-5.64 31.12	0.58 4.10	12 COS 12 SIN	3.54 1.64	53.11 71.86	3.94 -6.13	-1.14 -0.15	-4.48 -53.14	-0.49 -1.27

## FFT COEFFICIENTS FOR DATA POINT 105

## FFT COEFFICIENTS FOR DATA POINT 106

HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL
0C	573.89 0.00	-15.34 0.00	-15.70 0.00	0.50 0.00	-31.23 0.00	-68.80 0.00	10C	547.81 0.00	-18.02 0.00	-17.59 0.00	0.31 0.00	-29.63 0.00	-78.46 0.00
1 COS	2.24	6.47	0.85	-0.82	-8.96	2.49	1 SIN	4.87 21.82	2.61 -3.99	-1.49 -1.19	-0.13 0.23	-10.64 7.55	-3.45 -3.03
1 SIN	21.58	-2.71	-1.30	-0.71	5.15	-4.78							
2 COS	-11.72 -1.04	5.81 4.99	-1.02 -0.71	-0.75 -0.60	-0.20 -8.59	3.47 -0.53	2 SIN	-12.89 -3.06	5.02 4.83	-1.84 2.49	-0.28 -0.30	-1.58 -4.77	2.97 0.21
2 SIN													
3 COS	-4.26 3.53	25.58 -1.84	-4.95 -3.77	-0.48 -1.10	3.87 -9.04	1.59 3.95	3 COS	-10.06 -6.24	32.45 6.53	-7.80 -1.74	-0.41 0.98	7.49 -5.54	1.84 1.67
3 SIN													
4 COS	-20.97 14.61	-42.92 -54.53	-4.18 3.02	0.16 0.01	33.64 -30.03	-2.87 -3.78	4 SIN	8.76 -10.55	-37.51 -81.61	-12.35 13.56	0.61 -0.22	23.70 8.02	-1.92 -3.11
4 SIN													
5 COS	6.87 -9.58	-23.91 -10.77	-39.96 18.35	-0.05 0.98	-44.64 2.27	-0.11 -0.00	5 SIN	-0.15 -11.50	-19.55 -2.51	-44.74 29.01	0.12 0.04	-41.39 8.12	4.11 0.39
5 SIN													
6 COS	-15.74 -0.02	3.03 22.54	1.57 6.71	0.15 0.22	3.41 12.58	-0.23 -1.56	6 SIN	-8.99 3.64	-8.45 8.83	8.58 -4.76	-0.45 0.35	0.08 -5.95	1.57 0.42
6 SIN													
7 COS	-7.53 4.11	-0.90 -16.71	0.51 -1.17	1.34 0.54	6.31 -3.18	-0.56 1.00	7 SIN	-1.64 -3.02	-9.21 0.27	2.90 1.25	0.56 -0.48	3.90 0.16	-0.38 3.80
7 SIN													
8 COS	-2.78 -2.22	-7.98 100.51	16.51 9.60	-0.23 -0.11	-8.26 31.53	-5.37 -2.35	8 SIN	4.22 -3.52	-17.16 106.32	10.33 -3.25	0.26 -0.32	-7.26 42.95	-5.82 6.23
8 SIN													
9 COS	-3.92 -6.24	-32.57 11.82	1.14 -2.99	0.53 0.37	-21.47 11.82	-0.79 -2.63	9 SIN	-0.74 -11.17	-22.88 38.03	3.57 -8.33	0.80 -0.63	-2.05 3.98	0.57 4.38
9 SIN													
10 COS	7.72 6.33	111.62 -7.41	6.92 -28.54	0.13 0.31	-7.92 20.69	-0.98 0.13	10 SIN	1.62 1.65	70.39 -15.07	2.43 -27.84	0.21 -0.30	-23.16 16.26	0.03 -0.55
10 SIN													
11 COS	-2.97 0.55	12.16 -0.75	-9.07 20.20	0.26 -0.02	-14.93 14.53	-0.10 -0.89	11 SIN	-0.75 -1.85	3.54 18.66	-8.83 -1.77	-0.74 -0.42	-5.16 -15.62	-0.44 -0.09
11 SIN													
12 COS	1.07 -2.17	43.12 11.01	-10.98 4.37	0.02 0.72	-11.12 6.98	-4.45 -3.97	12 SIN	1.41 1.73	-0.29 79.98	13.39 0.33	0.87 0.51	-2.03 35.88	-2.08 -1.96
12 SIN													

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## FFT COEFFICIENTS FOR DATA POINT

107

## FFT COEFFICIENTS FOR DATA POINT

108

HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL
HC	425.68	-15.48	-16.41	1.98	-31.24	-72.06	HC	747.52	-18.62	-17.69	0.35	-28.57	-71.97
	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00
1 COS 1 SIN	4.26	6.64	0.97	-0.44	-14.52	-1.47	1 COS 1 SIN	5.49	3.29	-1.92	-0.43	-9.27	-0.88
2 COS 2 SIN	-8.50	2.20	-4.86	-0.32	-8.42	1.21	2 COS 2 SIN	-14.73	10.57	1.90	0.21	0.73	0.94
3 COS 3 SIN	-5.20	9.73	-8.41	0.50	-0.58	1.26	3 COS 3 SIN	-7.48	25.09	-3.69	0.15	7.36	1.43
4 COS 4 SIN	-72.84	-68.83	8.48	-0.88	1.99	-0.58	4 COS 4 SIN	-43.25	-5.84	12.04	-0.14	23.51	-0.43
5 COS 5 SIN	-5.70	-54.16	-42.50	-0.28	-65.76	2.66	5 COS 5 SIN	-3.28	5.70	-39.77	-1.11	-19.17	4.02
6 COS 6 SIN	-2.03	26.86	8.40	0.04	13.85	2.42	6 COS 6 SIN	-6.14	27.84	-0.65	-0.22	11.86	-2.42
7 COS 7 SIN	0.92	17.04	-4.58	0.33	5.39	3.39	7 COS 7 SIN	-3.95	15.52	5.46	-0.29	6.94	3.60
8 COS 8 SIN	1.89	-44.62	1.93	0.20	-31.40	-4.88	8 COS 8 SIN	-6.82	-43.95	-7.54	0.56	-21.87	0.63
9 COS 9 SIN	5.15	-16.23	-3.51	-0.06	-13.87	-4.48	9 COS 9 SIN	-3.05	10.67	-2.79	-0.72	-6.26	4.80
10 COS 10 SIN	2.57	4.76	-9.57	-0.38	15.65	3.53	10 COS 10 SIN	-5.23	35.65	12.72	0.01	28.71	2.08
11 COS 11 SIN	3.89	0.43	-4.33	0.12	-2.57	-0.49	11 COS 11 SIN	-0.39	27.44	4.24	-0.35	-3.70	-0.56
12 COS 12 SIN	5.05	-0.10	6.68	-0.36	-13.07	-0.29	12 COS 12 SIN	-0.69	32.00	-7.06	0.05	17.58	1.34

## FFT COEFFICIENTS FOR DATA POINT 109

## FFT COEFFICIENTS FOR DATA POINT 110

HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL
0C	551.44	-13.74	-14.02	0.40	-31.98	-64.01	0C	499.68	-16.31	-18.06	1.09	-33.63	-76.43
0 SIN	0.00	0.00	0.00	0.00	0.00	0.00	0 SIN	0.60	0.00	0.00	0.00	0.00	0.00
1 COS	3.60	8.24	2.45	-1.46	-16.90	2.40	1 COS	5.60	3.96	-1.90	-0.59	-17.65	-1.19
1 SIN	22.24	-3.45	1.53	-0.86	5.55	-2.36	1 SIN	23.91	-4.45	0.23	-1.22	6.99	-3.54
2 COS	-12.09	8.16	3.15	-0.71	2.25	0.25	2 COS	-17.81	13.21	2.17	0.72	-1.25	1.38
2 SIN	-1.53	-7.76	-4.38	-0.55	-11.28	1.22	2 SIN	-5.72	-1.22	-6.01	0.14	-10.87	-2.18
3 COS	-8.19	37.01	3.23	-0.04	11.89	2.35	3 COS	-4.73	30.25	-2.81	0.58	6.57	-1.03
3 SIN	5.21	3.81	-3.06	0.00	-4.78	4.09	3 SIN	-3.91	3.06	-7.02	-0.11	-6.10	1.56
4 COS	16.82	-11.86	-2.21	0.25	1.29	-3.68	4 COS	-0.09	47.96	4.27	-0.22	-7.47	0.04
4 SIN	-4.54	-22.73	-2.38	-0.16	-23.42	-1.44	4 SIN	18.99	-47.29	-7.25	1.12	25.92	-0.11
5 COS	-4.85	-7.07	-34.37	0.98	-26.74	3.38	5 COS	4.23	18.30	-49.58	-0.34	-26.97	4.25
5 SIN	-10.52	-1.13	18.78	0.73	-0.08	-0.51	5 SIN	-1.43	-30.08	14.18	-0.29	-14.10	-0.08
6 COS	-16.54	6.04	-8.72	0.51	-3.29	2.32	6 COS	-14.03	14.37	9.04	0.12	11.00	0.17
6 SIN	-13.27	16.25	-2.66	-0.01	11.76	-1.06	6 SIN	-15.45	3.42	6.35	0.07	1.67	5.22
7 COS	6.66	-9.78	1.30	-0.12	-3.42	-3.96	7 COS	4.44	18.55	4.89	0.21	8.02	-2.59
7 SIN	5.36	20.94	-0.20	-0.09	6.66	0.47	7 SIN	13.57	-9.29	1.64	-0.26	1.78	1.66
8 COS	-2.66	60.19	5.77	0.71	16.73	1.17	8 COS	4.41	-91.56	4.42	-0.06	-45.80	-3.12
8 SIN	-6.34	33.36	-12.23	-0.26	13.54	6.22	8 SIN	10.24	35.66	15.46	-0.79	17.45	4.72
9 COS	4.53	4.52	1.11	-0.08	17.61	-3.58	9 COS	4.95	40.08	2.67	-1.27	0.31	5.53
9 SIN	-4.45	39.28	-5.50	0.10	10.41	2.75	9 SIN	-0.48	-45.49	3.10	0.21	-26.46	-1.56
10 COS	1.67	-25.85	-9.36	-0.62	-9.18	0.59	10 COS	-5.84	-68.81	-5.92	-1.11	2.38	0.12
10 SIN	-5.52	-22.25	-17.95	0.11	31.81	-0.76	10 SIN	-1.86	57.86	0.88	-0.16	34.40	-4.25
11 COS	2.08	61.18	-0.25	0.17	-2.54	-2.51	11 COS	-2.18	-23.88	5.48	-0.45	15.13	0.10
11 SIN	-0.91	3.82	-35.15	-0.33	-4.93	-1.98	11 SIN	5.26	-31.16	-4.42	0.36	-9.42	7.17
12 COS	1.83	14.86	-0.06	-0.15	14.19	1.49	12 COS	0.02	-101.61	17.13	-0.19	-3.32	-4.26
12 SIN	-1.28	0.71	5.61	-0.12	3.48	1.93	12 SIN	4.34	-38.42	21.67	-0.77	18.51	0.81

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## FFT COEFFICIENTS FOR DATA POINT

111

## FFT COEFFICIENTS FOR DATA POINT

112

HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL
0C	593.97 0.00	-14.60 0.00	-12.60 0.00	2.84 0.00	-30.24 0.00	-74.48 0.00	0C	762.77 0.00	-9.30 0.00	-11.98 0.00	0.34 0.00	-27.58 0.00	-71.80 0.00
1 COS 1 SIN	2.82 21.34	6.14 -6.05	2.88 -1.06	0.12 0.85	-12.15 8.17	5.08 -0.39	1 COS 1 SIN	5.12 19.44	14.42 -5.54	4.55 0.86	-0.68 -0.67	-3.10 6.46	0.45 -0.50
2 COS 2 SIN	-5.94 6.11	5.55 2.37	3.66 2.72	0.18 0.55	-3.83 -3.67	-2.16 2.74	2 COS 2 SIN	-8.59 0.34	12.39 -4.75	1.21 -5.85	-0.21 -0.30	6.82 -12.32	7.33 -0.62
3 COS 3 SIN	-14.82 3.31	35.93 -11.26	3.51 1.09	0.51 0.03	11.67 -4.69	2.37 2.55	3 COS 3 SIN	-3.05 2.57	11.67 3.13	3.55 -0.74	-0.71 0.31	10.35 -0.13	-1.50 -3.94
4 COS 4 SIN	6.15 -63.26	-22.23 -112.85	-19.31 14.61	-0.62 0.00	12.93 -31.08	1.51 -3.71	4 COS 4 SIN	60.88 1.74	156.53 -63.12	-18.80 -22.81	-0.05 -1.73	22.66 13.42	1.47 3.59
5 COS 5 SIN	0.37 2.68	-4.63 23.19	-36.48 28.71	-1.41 -0.46	-26.09 20.76	3.83 -1.92	5 COS 5 SIN	0.43 -7.34	14.43 -11.97	-33.43 22.46	1.12 -1.27	-20.22 12.35	2.77 -4.09
6 COS 6 SIN	-13.14 -4.33	-13.07 11.77	-6.62 -4.95	-0.12 0.07	-13.85 6.12	-1.20 1.71	6 COS 6 SIN	-13.14 12.31	1.05 59.29	-10.20 -0.05	0.06 -0.01	-6.48 34.85	-2.75 -1.54
7 COS 7 SIN	0.23 -2.03	-12.49 -6.88	2.24 -4.78	-0.11 0.00	3.83 -6.47	2.34 -4.64	7 COS 7 SIN	13.55 0.47	-5.37 57.72	4.64 1.69	-0.13 0.26	-17.21 23.09	2.15 -0.07
8 COS 8 SIN	7.36 -11.31	59.33 57.99	-9.03 0.51	-0.90 0.13	34.86 -18.13	-1.10 0.96	8 COS 8 SIN	9.22 0.22	51.78 -79.33	11.00 -35.17	-0.08 0.25	6.14 8.63	-3.71 0.03
9 COS 9 SIN	0.66 -1.12	-6.25 57.48	-4.39 -9.44	-0.04 -0.05	-21.15 19.83	3.06 -3.70	9 COS 9 SIN	2.12 -3.17	16.63 -6.65	2.56 2.30	0.05 0.18	28.13 -13.48	0.38 -1.69
10 COS 10 SIN	0.92 -0.12	-37.66 36.71	-2.75 -14.99	-0.12 -0.60	-6.55 37.12	5.51 3.35	10 COS 10 SIN	4.41 2.47	73.66 38.29	18.67 -15.94	0.62 0.04	0.40 12.50	-0.84 1.40
11 COS 11 SIN	1.66 -2.68	-6.12 -1.53	26.59 -16.78	-0.41 0.08	30.62 15.39	3.46 -0.39	11 COS 11 SIN	-2.80 2.00	-38.10 -26.67	-16.75 -21.30	0.39 -1.22	25.97 -3.70	1.58 3.05
12 COS 12 SIN	1.38 -2.12	-9.90 -16.65	-7.73 1.93	1.30 -0.51	24.69 -25.94	0.61 2.81	12 COS 12 SIN	-2.69 -4.64	43.34 -82.06	-16.18 11.92	-0.36 0.23	-23.97 -19.70	-1.53 -1.69

D4C

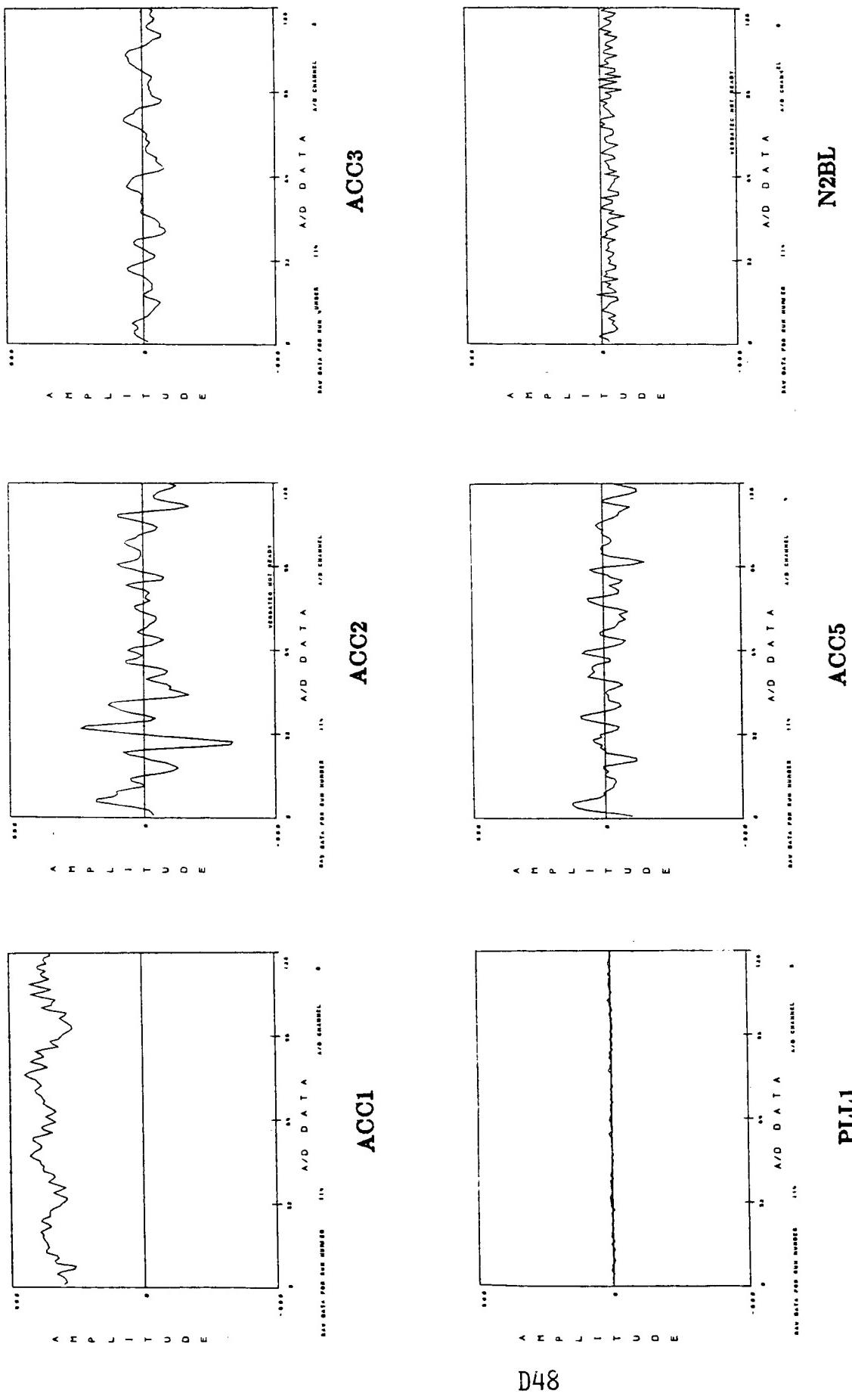
## FFT COEFFICIENTS FOR DATA POINT 113

HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL
0C	754.48 0.00	-16.88 0.00	-16.28 0.00	0.32 0.00	-28.37 0.00	-64.55 0.00
1 COS 1 SIN	2.39 20.62	5.33 -5.54	-0.17 -0.92	-0.89 -0.73	-12.57 4.96	2.89 -6.61
2 COS 2 SIN	-11.50 -4.90	11.75 -0.42	3.32 -2.48	-0.02 0.24	5.17 -9.37	-3.35 -2.60
3 COS 3 SIN	-3.95 -1.41	30.11 0.56	0.89 -3.87	-0.37 -0.11	12.17 -7.30	2.31 0.87
4 COS 4 SIN	-23.57 10.84	30.90 15.67	7.69 0.56	-1.54 0.88	-17.03 0.23	2.36 1.42
5 COS 5 SIN	-1.69 -5.72	29.37 10.96	-42.84 8.45	0.35 0.07	-19.05 9.39	-0.81 2.70
6 COS 6 SIN	-13.11 -7.44	26.42 48.41	6.17 7.89	-0.38 -0.90	20.46 21.35	3.18 -2.33
7 COS 7 SIN	2.70 2.66	36.10 85.61	6.55 4.42	0.57 0.42	16.05 28.62	-1.29 -3.06
8 COS 8 SIN	-0.99 7.51	78.75 -14.75	3.24 -14.77	-0.01 0.65	43.55 5.33	-2.63 1.48
9 COS 9 SIN	3.33 3.76	45.90 -65.79	1.73 4.21	-0.02 -0.04	1.48 -32.20	1.37 2.33
10 COS 10 SIN	-3.12 10.90	90.83 155.31	22.91 -4.76	0.06 -0.59	23.59 48.30	-2.94 1.20
11 COS 11 SIN	-2.08 5.82	-22.88 -42.49	-0.59 13.87	0.22 -0.25	2.49 -11.51	0.11 -1.41
12 COS 12 SIN	-2.29 0.51	-54.12 -29.49	5.29 12.01	0.80 0.69	1.67 -9.59	0.56 1.24

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Figure D3

Analog presentation of vibratory response data for data point 114.  
Data window is 1 rotor revolution, with 128 samples/rev.



**FFT COEFFICIENTS FOR DATA POINT 114**

HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL
0C	-2.88 0.00	3.95 0.00	-0.55 0.00	-219.30 0.00	-20.73 0.00	-2.09 0.00
1 COS 1 SIN	0.08 0.03	0.02 0.02	0.01 0.00	4.27 0.10	0.44 0.08	0.07 0.03
2 COS 2 SIN	0.10 -0.05	0.01 -0.02	-0.02 -0.05	4.40 0.26	0.46 0.08	0.02 -0.04
3 COS 3 SIN	0.05 0.01	-0.01 -0.01	-0.03 -0.03	4.37 0.47	0.52 0.08	0.10 0.01
4 COS 4 SIN	-0.38 -0.04	-1.52 0.03	0.85 -0.01	4.52 0.54	0.46 0.02	0.00 0.01
5 COS 5 SIN	-0.02 -0.02	-0.02 0.00	0.00 0.03	4.55 0.68	0.48 0.12	0.03 0.03
6 COS 6 SIN	0.00 -0.01	-0.03 -0.02	-0.03 0.02	4.71 0.95	0.41 0.08	0.06 -0.02
7 COS 7 SIN	0.01 0.04	-0.02 -0.02	-0.03 0.01	4.77 1.05	0.36 0.05	0.01 -0.02
8 COS 8 SIN	0.01 -0.03	-0.05 0.02	-0.01 -0.01	5.02 1.35	0.51 0.09	0.04 0.01
9 COS 9 SIN	0.04 -0.03	-0.04 -0.01	-0.03 0.00	5.25 1.62	0.54 0.15	0.07 0.01
10 COS 10 SIN	0.00 -0.02	-0.03 0.05	-0.01 0.00	5.62 1.99	0.52 0.20	0.04 0.06
11 COS 11 SIN	-0.03 0.00	-0.03 0.02	0.00 0.03	5.94 2.34	0.61 0.44	0.11 0.04
12 COS 12 SIN	-0.07 -0.05	-0.09 0.00	-0.06 0.09	6.52 2.96	0.58 0.31	0.06 0.05

DATA POINTS 114 THROUGH 154

Used to Calculate Global Transfer Matrix

Rotor RPM = 1100  
LSE Batch Size = 36  
Forcing Amplitude Limit  $\pm 0.33^\circ$  Root Pitch

FFT COEFFICIENTS FOR DATA POINT								FFT COEFFICIENTS FOR DATA POINT								116		
HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL					
DC	714.15	-16.38	-16.59	2.54	-30.28	-64.33	DC	800.79	-16.88	-14.96	0.81	-29.67	-77.22	0.00	-0.00	-3.64	-0.72	
1 COS	-19.35	1.63	-1.23	-0.14	-5.16	1.41	1 COS	-20.97	0.82	-0.38	0.02	-0.82	-10.14	3.05	-1.60	10.02	2.40	
1 SIN	-0.30	9.77	2.96	-0.49	-14.56	1.30	1 SIN	-1.60	-0.00	0.00	0.00	-0.08	5.01	1.33				
2 COS	13.47	-7.51	-2.17	0.38	2.03	-2.25	2 COS	15.37	-9.33	-1.92	0.79	-0.85	4.39		7.19	-7.07	-0.93	
2 SIN	-2.55	-4.78	-1.57	0.46	2.32	-2.96	2 SIN											
3 COS	2.84	-9.58	-3.81	0.09	-1.32	3.31	3 COS	0.71	20.73	-6.73	-0.72	-14.99	-14.99		3 SIN	5.57	-34.83	-4.15
3 SIN	11.61	-19.04	-2.79	1.39	-11.26	1.04	3 SIN											
4 COS	-35.87	15.95	-0.49	0.29	7.12	-0.81	4 COS	8.93	25.83	-7.50	0.40	39.24	-8.31		4 SIN	-38.46	-117.04	-1.99
4 SIN	21.43	-45.09	5.46	0.55	-9.56	0.44	4 SIN					-0.36	46.95	-6.83				
5 COS	1.66	-30.78	10.26	-0.75	-3.96	0.10	5 COS	5.04	0.19	10.96	0.31	18.51	-0.33		5 SIN	11.92	-12.46	-41.29
5 SIN	4.37	-33.13	-37.58	-1.16	-33.93	0.17	5 SIN					-1.88	-73.53	4.00				
6 COS	2.77	-7.97	10.10	0.61	2.51	1.34	6 COS	14.95	25.85	-2.06	-0.69	7.21	1.65		6 SIN	12.61	16.26	-7.13
6 SIN	-1.44	13.11	0.46	0.62	-6.15	-0.86	6 SIN					-0.49	6.56	-2.62				
7 COS	3.98	5.16	1.99	0.26	1.34	2.95	7 COS	1.69	13.96	4.22	-0.26	15.26	2.96		7 SIN	-5.74	-4.57	-1.94
7 SIN	4.89	-26.91	-1.57	0.06	-9.11	1.62	7 SIN					-0.66	-1.37	2.39				
8 COS	-2.69	-8.38	-6.27	0.02	-4.19	-1.18	8 COS	3.10	-52.92	4.49	-0.35	-15.77	-1.79		8 SIN	0.61	9.89	-14.32
8 SIN	6.26	-19.56	-0.40	-0.51	-9.05	-1.31	8 SIN					-0.03	33.52	-2.50				
9 COS	-0.19	-12.84	-2.00	-0.11	-0.63	1.13	9 COS	-1.17	51.82	-10.85	-0.05	50.63	-5.69		9 SIN	6.16	-15.38	6.48
9 SIN	2.27	-4.71	0.32	-0.32	-1.59	3.63	9 SIN					-0.44	-1.78	0.39				
10 COS	2.54	-14.90	-5.31	-0.59	-6.74	2.17	10 COS	5.88	78.95	-20.43	0.09	50.57	-6.54		10 SIN	0.99	-51.83	-10.84
10 SIN	0.43	16.53	7.74	-0.53	-19.37	-2.45	10 SIN					-0.21	7.56	-1.28				
11 COS	1.89	9.69	-8.37	-0.27	-4.32	2.16	11 COS	-0.30	-26.78	15.16	0.51	-5.62	1.27		11 SIN	3.90	8.31	23.18
11 SIN	-0.44	17.50	-22.39	0.00	-16.27	-2.98	11 SIN					0.21	16.00	-3.76				
12 COS	-4.52	19.14	-5.62	0.09	-23.93	2.99	12 COS	1.37	-76.26	14.50	0.02	2.23	0.46		12 SIN	2.60	40.54	-1.03
12 SIN	0.40	-1.54	5.93	0.21	5.82	-2.06	12 SIN					0.64	-2.52	1.29				

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## FFT COEFFICIENTS FOR DATA POINT 117

HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL
0C 0 SIN	805.19 0.00	-11.90 0.00	-14.20 0.00	1.08 0.00	-30.11 0.00	-B1.43 0.00	0C 0 SIN	716.19 0.00	-11.68 0.00	-13.41 0.00	2.29 0.00	-28.69 0.00	-81.64 0.00
1 COS 1 SIN	-20.13 8.26	5.61 3.19	0.69 -0.64	0.89 -10.49	-4.49 4.39	-0.02 -10.49	1 COS 1 SIN	-26.18 0.77	7.60 6.11	2.63 0.49	0.47 -1.15	-2.25 -13.60	5.61 3.54
2 COS 2 SIN	12.74 10.71	-4.14 -5.75	0.97 -0.88	0.58 0.03	-0.17 5.86	-3.09 -3.83	2 COS 2 SIN	14.33 7.09	-13.65 -4.14	-4.57 6.44	0.19 -0.57	-4.08 10.20	-2.13 -6.29
3 COS 3 SIN	2.25 1.608	-0.32 -29.34	0.33 -0.51	-0.64 0.06	-2.20 -7.76	1.89 -0.79	3 COS 3 SIN	3.10 1.99	17.45 -14.92	-1.43 -2.82	0.21 0.75	4.15 -7.10	6.58 -1.66
4 COS 4 SIN	-53.86 -23.35	-6.31 -10.73	1.37 4.44	-0.03 -0.02	30.22 20.53	-2.76 -2.25	4 COS 4 SIN	-3.79 39.74	48.40 24.61	5.00 0.61	-0.40 0.39	-20.00 -15.04	7.29 2.96
5 COS 5 SIN	0.70 4.24	-3.05 -19.66	14.08 -38.15	-0.74 -0.60	16.57 -40.01	2.96 -0.67	5 COS 5 SIN	-2.22 8.60	-18.48 -10.69	20.55 -40.86	-0.66 0.01	14.80 -29.04	-3.22 1.16
6 COS 6 SIN	3.48 9.28	-4.85 -56.72	-8.54 -7.69	-0.40 0.04	-9.35 -24.04	-2.24 0.84	6 COS 6 SIN	-3.05 4.91	38.35 -58.30	-10.25 -4.32	0.38 -0.38	2.70 -21.86	2.55 0.19
7 COS 7 SIN	-2.95 1.76	16.05 -12.15	-0.97 -5.59	0.35 -0.59	3.03 -7.82	-0.86 -0.83	7 COS 7 SIN	2.75 1.49	-4.04 45.84	-1.41 1.47	0.67 0.09	-12.99 17.15	-2.65 0.00
8 COS 8 SIN	-4.44 -2.21	-51.50 43.09	2.23 5.52	0.14 0.00	-27.41 20.65	1.08 -1.20	8 COS 8 SIN	-0.25 4.81	-46.60 76.55	0.22 6.31	0.82 -0.62	-14.86 41.92	0.21 -2.42
9 COS 9 SIN	3.39 1.43	36.74 3.68	2.63 0.68	-1.20 -0.16	16.31 -13.67	-1.77 2.93	9 COS 9 SIN	-3.75 -0.71	40.50 -24.90	-4.03 -8.35	0.31 -0.53	16.39 -7.57	-0.19 0.69
10 COS 10 SIN	-2.02 -4.93	-51.31 32.97	-7.74 10.43	-0.03 0.55	-3.26 -28.73	5.00 -0.26	10 COS 10 SIN	0.53 2.33	102.48 -21.05	-9.21 -18.04	0.21 -0.43	24.20 -5.36	1.91 1.67
11 COS 11 SIN	2.50 -0.83	1.17 -23.46	4.58 18.49	0.42 -0.17	-10.63 2.36	-1.71 -2.26	11 COS 11 SIN	0.23 0.10	-18.60 13.84	1.29 -11.99	0.37 0.91	33.91 -2.93	0.65 4.73
12 COS 12 SIN	1.32 -3.22	-29.05 -0.58	3.20 -9.11	-0.15 0.17	-12.00 -22.50	-1.27 4.01	12 COS 12 SIN	-1.28 -2.44	24.17 -46.78	-13.07 5.80	-0.20 0.31	13.74 -10.19	-2.12 -4.04

## FFT COEFFICIENTS FOR DATA POINT 119

## FFT COEFFICIENTS FOR DATA POINT 120

HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL
DC	672.77	-13.17	-14.70	1.15	-34.48	-70.17	DC	863.73	-13.44	-12.84	-0.45	-33.86	-71.98
1 COS	-20.54	5.06	1.71	0.82	-8.67	4.89	1 COS	-17.91	7.23	3.01	1.02	-7.58	3.26
1 SIN	-1.04	8.17	1.00	0.00	-1.12	-11.05	1 SIN	2.35	7.60	1.49	-0.55	-7.82	1.17
2 COS	14.80	-10.98	-4.28	0.17	-9.55	3.46	2 COS	12.04	-7.64	-3.77	-0.01	-7.65	1.07
2 SIN	1.60	-0.82	3.99	0.07	7.18	-0.57	2 SIN	3.04	-8.05	0.05	-0.12	4.77	-1.88
3 COS	-0.08	-1.20	-4.95	-0.01	-13.70	2.03	3 COS	2.17	25.37	-0.13	0.94	4.76	2.58
3 SIN	1.67	-22.67	1.72	0.18	-4.98	-2.50	3 SIN	-0.08	-10.26	-5.23	-0.30	-9.44	1.70
4 COS	-19.96	-24.08	12.61	-0.35	-5.35	0.78	4 COS	47.63	198.23	-5.18	-1.11	-11.53	6.72
4 SIN	33.09	21.80	-2.56	-0.05	-15.53	4.16	4 SIN	34.10	13.47	-25.40	2.23	32.58	0.17
5 COS	-1.86	-10.46	9.78	-1.87	12.13	-2.62	5 COS	-1.46	12.48	9.14	-0.25	23.85	2.27
5 SIN	8.95	5.91	-48.96	-0.19	-19.10	-3.93	5 SIN	9.17	-21.22	-47.49	1.57	-45.26	-2.39
6 COS	3.25	-5.94	4.42	0.00	3.41	-0.32	6 COS	30.56	11.49	-8.42	0.78	11.31	-3.35
6 SIN	22.40	-20.84	4.38	0.15	-8.22	1.75	6 SIN	10.15	-59.62	6.01	-0.05	-9.99	4.29
7 COS	6.22	8.55	8.01	0.36	7.15	-2.82	7 COS	8.68	21.10	1.55	-0.05	4.12	1.72
7 SIN	10.83	41.86	1.60	-0.35	20.99	3.48	7 SIN	-4.21	13.42	5.06	-0.18	15.53	3.11
8 COS	-10.32	-40.78	13.88	0.52	-6.99	-1.52	8 COS	5.19	5.60	39.01	-0.24	-67.47	5.51
8 SIN	-2.27	131.44	-0.34	-0.95	63.39	-0.27	8 SIN	16.69	37.43	8.62	0.22	26.91	-0.71
9 COS	-0.02	48.81	4.86	0.26	31.89	-1.77	9 COS	2.75	40.73	-9.72	0.33	7.29	-3.42
9 SIN	-1.52	43.24	0.17	-0.43	10.37	1.24	9 SIN	4.86	31.75	-5.92	0.43	44.44	-0.70
10 COS	-2.04	-15.83	-2.28	-0.05	1.49	2.58	10 COS	0.79	-76.88	-32.53	0.63	-5.91	4.74
10 SIN	0.15	9.33	9.14	0.18	-5.89	-3.16	10 SIN	-10.55	-113.33	2.60	0.39	-26.18	0.21
11 COS	-2.66	-31.24	19.39	-0.24	13.62	2.22	11 COS	-3.10	-32.19	-19.81	-0.02	-0.79	-1.01
11 SIN	3.94	19.16	2.65	-0.28	-31.73	0.43	11 SIN	-3.55	11.87	-7.06	-0.20	28.06	-4.47
12 COS	-2.91	31.89	-13.60	0.69	-26.53	0.83	12 COS	-0.08	86.75	5.10	-0.41	-2.41	0.97
12 SIN	2.03	19.99	-10.65	-0.43	-23.65	-0.23	12 SIN	0.77	155.03	-28.70	0.16	-32.48	-1.57

## FFT COEFFICIENTS FOR DATA POINT 121

## FFT COEFFICIENTS FOR DATA POINT 122

HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL
DC	724.65 0.00	-17.08 0.00	-16.13 0.00	3.24 0.00	-32.39 0.00	-75.12 0.00	DC	769.50 0.00	-19.21 0.00	-14.38 0.00	0.57 0.00	-30.50 0.00	-80.53 0.00
1 COS 1 SIN	-13.74 1.23	-0.18 4.54	-2.25 -0.51	-0.20 -0.15	-3.77 -18.20	4.49 3.28	1 COS 1 SIN	-20.97 -3.99	-0.55 8.01	-0.10 2.40	0.60 -0.66	-3.91 -9.46	3.88 3.93
2 COS 2 SIN	12.35 -3.51	-5.07 7.78	2.71 3.58	0.21 0.20	2.48 9.05	3.72 -3.46	2 COS 2 SIN	8.97 5.02	-9.52 -12.49	0.88 -0.45	-0.27 0.23	-1.31 6.17	0.86 -4.16
3 COS 3 SIN	-2.31 1.60	-5.33 -38.67	-3.35 -1.19	0.06 -0.62	-1.58 -16.72	0.27 -5.38	3 COS 3 SIN	0.31 5.41	14.25 -7.54	3.24 -4.56	-0.46 0.68	5.98 -6.41	3.94 0.69
4 COS 4 SIN	19.19 -13.26	59.80 9.63	-4.32 -0.94	0.26 0.12	-4.99 15.86	2.05 -1.81	4 COS 4 SIN	16.64 12.92	111.59 -50.42	-2.15 -15.06	0.31 1.45	1.63 46.16	5.54 -5.17
5 COS 5 SIN	11.08 5.13	-19.01 13.70	20.18 -49.63	0.05 1.69	15.67 -21.81	0.19 8.11	5 COS 5 SIN	-1.95 17.70	2.94 7.98	14.01 -42.44	0.36 -0.50	20.53 -29.99	-0.77 4.15
6 COS 6 SIN	-6.11 14.81	-2.75 25.51	0.57 11.18	-0.19 -0.12	10.24 19.12	-1.63 -3.35	6 COS 6 SIN	14.48 0.19	-27.07 -7.10	-5.13 -0.99	0.53 -0.06	-10.16 -10.13	0.75 0.12
7 COS 7 SIN	-6.97 2.69	22.95 -9.15	0.95 1.06	-0.05 -0.06	26.01 4.64	1.43 2.76	7 COS 7 SIN	3.85 -4.32	0.62 12.04	-3.85 -1.21	-0.32 0.13	-4.19 2.07	4.76 1.47
8 COS 8 SIN	6.02 7.83	-29.13 46.30	12.46 7.59	-0.13 -0.44	-18.31 43.31	1.23 -4.39	8 COS 8 SIN	6.75 3.09	0.85 -24.52	2.58 -5.18	-0.02 -0.12	-19.29 -1.89	1.15 5.78
9 COS 9 SIN	-0.51 -0.86	-2.79 -11.02	-1.39 6.64	-0.48 -1.77	2.04 6.58	-2.36 1.03	9 COS 9 SIN	-1.14 7.12	31.90 8.63	-2.37 -5.89	-0.58 -0.39	11.04 33.39	1.72 -6.00
10 COS 10 SIN	-1.58 -0.68	-9.19 11.39	-13.79 7.43	0.09 0.35	19.90 -3.01	-3.18 2.24	10 COS 10 SIN	-2.59 -1.15	-2.81 150.04	4.71 15.98	-0.13 0.46	13.03 -5.12	-0.06 -2.16
11 COS 11 SIN	-5.61 -0.19	15.01 -36.49	-0.39 8.31	-0.04 0.10	6.30 48.19	-1.79 2.21	11 COS 11 SIN	1.40 -1.16	-54.76 -1.68	32.33 -18.12	-0.48 0.20	22.26 -12.16	-4.29 2.44
12 COS 12 SIN	-0.32 0.49	65.05 33.18	-13.54 -14.21	0.35 0.31	-31.23 6.76	-4.13 -1.60	12 COS 12 SIN	0.94 -3.44	105.67 -48.78	-18.57 -3.19	0.30 -0.67	-12.25 -20.79	-1.28 -0.38

D53

## FFT COEFFICIENTS FOR DATA POINT 123

## FFT COEFFICIENTS FOR DATA POINT 124

HARMONIC	ACC1	ACC2	ACC3	FLL1	N2BL	HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL
0 IC	740.59	-12.30	-15.56	2.84	-32.55	-70.28	516.63	-14.84	-13.77	1.41	-34.02	-73.11
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 COS	-19.92	4.32	-0.22	-0.16	-4.44	5.19	-70.92	4.17	1.94	0.97	-7.11	5.60
1 SIN	0.39	9.44	3.45	-0.84	-14.15	1.58	-0.06	7.41	-0.29	-0.26	-10.85	5.50
2 COS	12.14	-8.65	-1.27	-0.84	3.50	-3.46	9.45	-10.37	-3.60	0.43	-11.29	-5.53
2 SIN	-4.52	4.67	0.70	-0.04	8.10	2.44	-0.46	4.65	5.10	0.69	10.45	-0.09
3 COS	-16.25	4.51	-4.73	-0.42	-1.61	0.17	8.80	23.11	-5.91	0.25	-3.95	3.59
3 SIN	14.69	-37.07	4.21	0.46	-4.25	-0.48	0.48	-38.10	-0.20	0.19	-12.84	-2.08
4 COS	-1.22	-33.20	2.48	-0.08	-4.31	1.34	4 COS	29.64	54.17	-0.29	-0.06	-26.49
4 SIN	16.62	24.42	-2.02	0.68	3.17	0.80	4 SIN	28.13	21.17	-14.38	1.25	-5.80
5 COS	19.02	-40.16	14.69	-0.90	-7.11	3.39	5 COS	21.33	-7.17	10.39	-0.63	14.08
5 SIN	-10.09	-19.40	-39.01	0.19	-43.78	-1.64	5 SIN	3.42	10.17	-53.47	0.89	-30.63
6 COS	4.73	-16.13	5.50	0.16	-7.23	2.17	6 COS	7.55	27.14	-1.46	-0.24	9.21
6 SIN	-1.17	-12.11	-3.02	0.32	-14.93	-1.21	6 SIN	-0.66	5.14	8.73	-0.14	6.94
7 COS	3.52	0.85	-0.03	0.30	-0.72	0.20	7 COS	-8.51	1.48	2.15	0.33	11.47
7 SIN	7.29	-4.32	-3.49	-0.05	0.63	-4.11	7 SIN	-5.64	34.57	3.44	0.24	12.81
8 COS	0.46	-16.90	4.25	0.31	-6.03	-3.22	8 COS	-7.75	67.25	4.42	-0.58	10.96
8 SIN	7.36	-12.73	-2.65	0.54	8.12	1.59	8 SIN	6.41	-0.80	1.30	0.54	-8.97
9 COS	-4.60	-1.47	3.49	-0.27	3.46	7.29	9 COS	-6.98	44.86	0.21	-0.05	-8.86
9 SIN	-0.73	-7.64	-1.29	-0.33	-9.29	0.09	9 SIN	8.56	17.58	0.44	-0.51	-7.41
10 COS	-1.76	1.24	-9.95	-0.19	17.89	3.81	10 COS	-2.85	57.41	-8.06	-0.28	30.46
10 SIN	-2.32	-0.97	-0.63	-0.26	-10.02	0.58	10 SIN	5.73	64.30	3.44	-0.44	18.13
11 COS	-1.09	-13.91	-21.17	-0.23	-5.74	3.23	11 COS	-7.24	-8.78	-9.36	0.06	-3.54
11 SIN	-0.69	4.90	-6.47	0.73	-16.52	2.50	11 SIN	1.03	26.97	13.73	-0.89	19.86
12 COS	-1.72	-14.58	4.02	0.41	-3.32	1.99	12 COS	-0.78	86.44	-9.67	-0.06	9.96
12 SIN	2.15	6.53	-1.61	-0.29	6.05	0.83	12 SIN	0.84	8.49	-11.72	0.27	11.40

D54

## FFT COEFFICIENTS FOR DATA POINT 125

HARMONIC	ACC1	ACC2	ACC3	PL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	PL1	ACC5	N2BL
1 COS 1 SIN	529.86 0.00	-18.33 0.00	-13.37 0.00	1.12 0.00	-31.57 0.00	-75.34 0.00	1 COS 1 SIN	743.36 0.00	-17.60 0.00	-13.84 0.00	0.83 0.00	-30.27 0.00	-76.29 0.00
2 COS 2 SIN	-16.58 -1.37	2.07 9.06	2.37 1.64	0.21 -0.63	-4.28 -10.42	2.64 2.22	1 COS 1 SIN	-18.91 0.13	1.30 6.35	1.50 0.66	1.01 -1.39	-1.47 -15.14	2.34 -2.37
3 COS 3 SIN	12.30 -3.50	-16.19 -9.95	-4.27 0.36	-0.41 0.91	-7.11 5.08	1.99 0.37	2 COS 2 SIN	14.65 5.46	-14.08 -0.75	-3.43 3.31	-0.23 0.10	-4.22 7.21	0.73 -6.27
4 COS 4 SIN	-4.15 -7.64	19.18 -1.92	-1.89 -2.65	-0.29 -0.37	-1.73 -2.17	1.54 -2.42	3 COS 3 SIN	1.52 4.27	6.38 -35.18	-4.31 -2.94	0.52 -0.02	-0.26 -15.50	2.31 -3.33
5 COS 5 SIN	67.15 37.43	137.43 -26.32	1.18 -27.03	0.15 1.05	-1.64 -0.87	5.21 -0.87	4 COS 4 SIN	27.10 -3.02	57.63 -34.57	-4.14 -3.81	0.36 0.26	-12.45 19.34	-1.66 -13.58
6 COS 6 SIN	8.87 8.67	9.04 0.00	11.22 -48.75	0.07 0.24	1.0 -1.2	-2.06 2.69	5 COS 5 SIN	6.61 6.23	14.32 26.46	3.03 -51.22	1.27 0.56	22.37 -12.01	-7.68 4.73
7 COS 7 SIN	8.68 7.52	-26.32 10.39	-5.39 3.46	-0.54 -0.62	-0.6 -0.68	1.45 -0.63	6 COS 6 SIN	-0.87 6.33	1.25 -21.14	7.23 8.27	-0.40 0.08	15.09 -3.34	1.39 1.38
8 COS 8 SIN	14.04 -7.01	-15.81 -30.73	0.18 -1.99	-1.75 0.10	-12.43 -14.23	3.03 3.46	7 COS 7 SIN	-0.98 1.55	-23.83 12.22	4.38 3.35	0.05 0.58	9.81 -3.59	-1.70 0.02
9 COS 9 SIN	15.16 7.69	20.54 -11.90	2.06 0.04	-0.81 0.43	-12.04 -14.93	4.13 2.04	8 COS 8 SIN	0.10 2.34	-116.97 -54.14	-4.79 16.42	-0.63 0.01	-45.30 -23.54	-1.24 -0.52
10 COS 10 SIN	-16.60 -1.15	-29.05 -24.09	-9.51 -3.04	0.05 -0.09	-2.54 9.87	0.39 1.41	9 COS 9 SIN	-1.82 8.64	5.67 -17.92	-4.95 -1.70	-0.63 -0.02	-6.15 20.60	1.27 4.06
11 COS 11 SIN	-4.93 -1.33	48.27 -37.86	14.52 -4.83	0.37 -0.56	-2.31 -10.34	1.69 0.62	10 COS 10 SIN	-2.57 -0.41	82.08 -35.83	-13.24 -6.42	0.15 -0.28	45.88 7.17	-1.18 0.02
12 COS 12 SIN	9.86 1.80	125.76 -37.73	-13.54 2.24	0.06 0.11	41.84 22.77	-2.80 1.72	12 COS 12 SIN	-2.58 0.31	-46.32 -12.28	6.65 5.79	-0.35 0.13	-26.24 -24.74	0.02 0.33

D55

## FFT COEFFICIENTS FOR DATA POINT 127

## FFT COEFFICIENTS FOR DATA POINT 128

HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL
0C 0 SIN	772.70 0.00	-16.72 0.00	-15.00 0.00	0.80 0.00	-70.85 0.00	-76.51 0.00	DC	712.19 0.00	-24.16 0.00	-15.95 0.00	2.28 0.00	-31.89 0.00	-75.88 0.00
1 COS 1 SIN	-20.72 0.83	3.59 8.00	0.27 1.98	1.55 -0.58	-3.45 -15.20	1.42 -1.88	1 COS 1 SIN	-18.75 1.87	-5.22 7.07	-2.66 0.75	-0.26 -1.03	-3.36 -16.18	3.05 3.81
2 COS 2 SIN	11.84 6.21	-12.49 -0.48	-4.49 0.92	-0.24 -0.02	-4.54 6.78	-0.64 -8.46	2 COS 2 SIN	13.95 -5.44	-19.94 6.88	1.70 5.48	0.08 -0.01	0.20 8.62	-1.49 0.59
3 COS 3 SIN	-8.71 1.56	16.62 -36.37	-8.64 -2.23	0.15 0.70	-3.19 -16.78	2.20 -3.93	3 COS 3 SIN	-1.96 -4.54	-4.44 -33.26	-3.09 0.80	-0.31 0.43	-3.56 -9.82	5.60 -4.64
4 COS 4 SIN	-12.72 -28.57	0.25 -26.91	0.84 2.84	-0.19 -0.72	-5.04 14.38	-3.57 -1.50	4 COS 4 SIN	-4.68 61.43	34.90 86.13	22.81 -8.52	-0.35 0.76	-16.01 31.05	-1.03 -1.43
5 COS 5 SIN	9.78 10.63	13.20 4.53	2.03 -52.91	-0.07 0.23	23.69 -23.27	0.32 -0.44	5 COS 5 SIN	2.08 11.52	-19.95 37.02	27.98 -40.43	-0.90 0.54	19.84 -8.01	-4.62 7.13
6 COS 6 SIN	1.22 13.97	6.43 -11.90	7.80 5.58	-1.04 0.03	18.70 -1.75	0.71 -3.95	6 COS 6 SIN	-12.68 7.83	-21.13 -13.55	0.25 -10.67	0.33 0.41	-13.03 -14.69	1.03 -2.89
7 COS 7 SIN	2.71 7.77	-5.48 37.06	6.61 0.91	-0.67 0.70	9.08 2.44	-0.05 -1.11	7 COS 7 SIN	-6.06 0.01	1.46 18.78	3.26 -9.10	-0.14 -0.55	5.13 13.84	-1.60 4.81
8 COS 8 SIN	2.99 -5.50	-55.72 49.52	13.00 -1.10	0.23 0.79	-25.00 14.99	-2.09 0.85	8 COS 8 SIN	7.39 3.49	5.24 24.69	-10.10 5.77	-0.22 0.14	31.71 -8.68	4.38 3.55
9 COS 9 SIN	-3.14 4.87	-34.97 -11.02	-7.24 6.62	-0.32 0.05	9.25 14.70	-3.54 -4.85	9 COS 9 SIN	-1.32 2.37	30.70 4.79	2.86 3.91	-0.46 -0.88	3.84 -14.52	-1.07 -1.36
10 COS 10 SIN	0.05 1.69	22.51 -8.58	-13.30 2.79	-0.17 -0.37	43.01 -21.42	2.55 -1.49	10 COS 10 SIN	-1.35 -6.63	3.16 60.39	-10.95 9.85	-0.38 -0.03	46.80 -2.75	-0.85 -1.41
11 COS 11 SIN	2.27 2.84	1.13 21.69	25.58 -23.38	-0.23 -0.45	8.57 23.89	-1.97 0.76	11 COS 11 SIN	-2.81 2.33	-37.85 1.95	20.74 29.42	0.73 0.58	11.57 4.80	4.13 -0.73
12 COS 12 SIN	-0.71 3.71	-54.95 59.35	2.98 6.54	-0.03 -0.16	-34.81 25.82	-0.61 2.89	12 COS 12 SIN	5.13 4.53	-55.27 72.31	12.34 -8.10	0.29 -0.52	-17.63 -20.46	2.92 -0.25

D56

## FFT COEFFICIENTS FOR DATA POINT 129

## FFT COEFFICIENTS FOR DATA POINT 130

HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL
DC	686.75	-17.09	-16.37	0.81	-33.98	-77.72	DC	681.88	-16.27	-18.17	0.09	-31.63	-72.20
1 COS	0.00	0.00	0.00	0.00	0.00	0.00	1 COS	-21.51	0.39	-4.30	0.02	-2.48	1.09
1 SIN	2.66	6.53	0.31	-1.69	-5.41	6.65	1 SIN	-5.66	6.80	1.16	-0.53	-14.84	2.48
2 COS	11.90	-12.93	-0.37	-0.12	-4.37	2.23	2 COS	11.56	-3.35	1.96	0.15	2.24	-1.51
2 SIN	2.76	5.03	6.49	0.07	6.50	2.11	2 SIN	5.08	0.61	3.53	-0.05	8.89	-3.80
3 COS	-0.38	31.95	-7.91	-0.09	-5.63	10.09	3 COS	2.83	5.46	-2.57	0.18	0.35	2.12
3 SIN	-0.83	-35.85	-0.95	0.29	-16.44	2.34	3 SIN	8.11	-21.36	-0.60	-0.26	-10.46	-2.90
4 COS	53.59	10.72	-11.38	0.42	-23.94	5.46	4 COS	-24.26	36.85	2.87	-0.05	6.26	4.28
4 SIN	-8.85	-99.36	2.08	0.32	-18.87	-4.81	4 SIN	2.94	-7.39	4.65	-0.24	16.43	-1.84
5 COS	6.76	-5.08	12.50	0.49	13.28	-2.83	5 COS	-2.98	22.49	8.43	-0.67	21.13	-3.72
5 SIN	5.88	2.97	-53.99	-0.64	-22.41	-5.05	5 SIN	-3.66	-2.66	-42.08	-0.46	-16.08	1.16
6 COS	-6.00	9.31	3.19	-0.04	6.21	0.03	6 COS	3.84	10.30	3.99	-0.19	1.16	2.62
6 SIN	14.42	13.68	9.43	0.11	11.25	-0.08	6 SIN	21.51	-34.85	-7.37	0.18	-17.73	0.09
7 COS	-1.22	-27.66	3.47	0.33	-0.89	2.79	7 COS	3.43	14.05	2.03	0.50	4.52	-0.88
7 SIN	-5.28	24.49	3.19	-0.87	7.09	2.38	7 SIN	1.32	-6.76	-5.03	0.38	-4.13	4.43
8 COS	-3.62	-48.54	-0.07	-0.24	-17.20	5.64	8 COS	-4.80	-60.94	-7.39	0.90	-28.13	1.30
8 SIN	6.13	0.33	5.06	-0.88	9.22	-2.25	8 SIN	1.80	-17.35	3.71	-0.23	-6.05	-1.50
9 COS	2.54	56.19	-4.99	0.25	25.12	-3.80	9 COS	-2.81	13.83	-4.69	1.32	5.56	-3.28
9 SIN	1.02	5.43	1.87	0.54	6.95	-2.23	9 SIN	6.46	-0.23	4.02	0.20	-3.49	-0.81
10 COS	0.80	40.43	-23.16	-0.29	15.26	-0.31	10 COS	-0.98	39.71	-6.22	0.26	24.36	0.49
10 SIN	1.75	-111.62	-11.11	0.23	16.32	2.28	10 SIN	-0.86	-0.08	1.15	0.47	-24.00	3.91
11 COS	-2.91	-56.34	10.76	0.27	27.05	-0.35	11 COS	0.69	0.77	-25.42	0.32	-15.83	-1.76
11 SIN	2.98	-33.40	24.15	0.35	30.17	0.76	11 SIN	-4.71	35.02	8.21	-0.24	13.57	2.49
12 COS	-1.06	-12.47	-10.86	0.32	-22.37	-1.75	12 COS	-2.12	-44.58	10.74	-0.32	-14.77	0.93
12 SIN	4.95	-67.42	10.26	-0.93	-31.59	0.76	12 SIN	2.00	-21.04	1.62	1.14	-1.61	-0.93

D57

## FFT COEFFICIENTS FOR DATA POINT

131

## FFT COEFFICIENTS FOR DATA POINT

132

	HARMONIC	ACC1	ACC2	ACC3	FLL1	ACCS	N2BL	HARMONIC	ACC1	ACC2	ACC3	FLL1	ACCS	N2BL
DC	628.88	-11.38	-16.85	1.97	-33.73	-73.59	0.00	DC	640.09	-16.50	-15.18	3.83	-31.72	-79.47
1 COS	-23.42	7.39	-2.99	0.48	0.56	2.71	2.24	1 COS	-22.63	2.10	-0.39	-0.73	-6.52	3.70
1 SIN	-1.19	7.35	0.30	-0.63	-15.19	1 SIN	7.04	1 SIN	10.15	2.91	-0.19	-16.58	2.59	
2 COS	8.32	-3.42	-2.13	-0.40	-3.95	2.48	0.56	2 COS	12.37	-9.07	0.51	0.34	1.97	3.21
2 SIN	7.89	4.29	7.29	0.56	11.83	3.48	0.56	2 SIN	-1.35	3.53	-0.22	-0.55	3.80	-7.39
3 COS	-8.30	29.44	-4.72	-0.10	1.39	3.70	-8.67	3 COS	-2.42	-1.43	-2.98	-0.46	-6.09	1.89
3 SIN	5.35	-15.66	3.24	0.18	-8.67	-2.55	5.01	3 SIN	5.01	-12.84	-1.10	-0.56	-6.73	-0.73
4 COS	-18.54	49.71	8.09	-0.57	-17.87	3.00	4.75	4 COS	-33.45	-25.87	7.80	-1.03	-13.64	-4.85
4 SIN	-7.49	41.92	2.91	0.45	0.95	4.75	5.33	4 SIN	3.36	9.99	-0.49	-10.64	-2.61	
5 COS	2.91	-4.58	15.44	-0.20	12.33	-1.05	0.56	5 COS	4.54	-24.01	20.90	0.77	19.39	-2.12
5 SIN	-1.07	8.07	-47.33	0.12	-19.57	2.12	0.12	5 SIN	12.98	-51.50	-42.15	0.01	-57.69	5.20
6 COS	-3.68	-4.36	6.33	-0.43	-2.40	-5.47	-5.67	6 COS	3.48	-18.48	-5.99	0.62	-4.89	-4.07
6 SIN	19.29	-18.54	-5.67	-0.30	-17.85	-1.56	6 SIN	2.44	14.12	-2.75	0.55	2.31	-1.07	
7 COS	4.66	-1.42	2.78	-0.20	0.46	3.51	0.46	7 COS	2.00	-7.07	-3.74	0.21	2.23	1.32
7 SIN	2.96	18.93	-3.32	0.16	7.94	-1.29	0.16	7 SIN	2.37	-13.59	-4.55	-0.24	-1.02	4.00
8 COS	6.51	34.75	3.77	-0.46	20.37	-6.74	8 COS	-4.82	67.48	2.76	-0.09	24.98	1.13	
8 SIN	-1.34	-30.21	-10.20	0.26	-3.59	-2.05	0.26	8 SIN	-0.16	39.11	-8.32	-0.30	17.38	6.06
9 COS	-3.54	14.89	-5.60	-0.48	21.06	0.60	-0.30	9 COS	-2.43	-9.24	0.25	0.29	-12.80	2.79
9 SIN	3.80	-20.31	4.80	-0.30	-10.29	-3.22	-0.30	9 SIN	0.93	3.13	-4.32	-0.02	6.96	-4.03
10 COS	-2.61	32.86	-22.20	0.04	56.44	-3.06	0.50	10 COS	0.30	-9.69	-23.53	-0.12	18.58	1.46
10 SIN	-6.52	-13.72	0.61	0.50	2.07	0.12	0.50	10 SIN	-2.50	-2.35	4.63	-0.24	8.76	-0.51
11 COS	-2.20	-2.40	-27.49	0.80	-10.25	-0.92	1.35	11 COS	1.24	1.08	5.04	0.14	14.27	2.39
11 SIN	0.59	31.73	12.77	-0.63	21.09	1.35	1.35	11 SIN	1.28	35.90	-15.63	0.69	-7.84	-5.90
12 COS	-1.63	-31.23	16.98	0.55	2.39	5.11	0.41	12 COS	2.07	23.69	-0.43	-0.18	-7.13	2.37
12 SIN	1.56	73.57	-6.19	-5.31	3.44	3.44	0.76	12 SIN	0.76	-23.16	3.84	0.12	1.08	-2.25

D58

## FFT COEFFICIENTS FOR DATA POINT 133

## FFT COEFFICIENTS FOR DATA POINT 134

HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL
DC	499.95 0.00	-16.41 0.00	-14.68 0.00	0.30 0.00	-29.07 0.00	-74.20 0.00	DC	546.30 0.00	-17.82 0.00	-16.59 0.00	0.18 0.00	-33.55 0.00	-74.59 0.00
1 COS	-22.17 -0.14	4.42 0.24	0.54 -0.78	0.02 -12.79	-0.83 2.17	4.22 2.17	1 COS	-23.65 1 SIN	-0.90 8.15	-2.71 1.03	1.40 -0.72	-7.98 -14.99	6.03 1.39
1 SIN													
2 COS	7.82 0.59	-13.85 -0.63	-5.55 6.42	-0.28 -0.27	-3.94 8.11	2.69 2.38	2 COS	14.67 2 SIN	-7.45 4.28	1.39 2.87	0.21 0.30	-3.85 11.03	-3.29 -2.72
2 SIN													
3 COS	-8.70 -6.63	29.17 -29.93	-7.34 2.45	-0.36 0.53	3.04 -8.00	7.44 -1.60	3 COS	1.18 3 SIN	9.62 3.86	-3.35 -17.05	-0.10 1.45	-5.61 0.83	5.38 -6.00
3 SIN													
4 COS	69.95 29.46	38.13 -33.01	-6.42 -12.51	0.38 0.80	-6.33 -3.21	5.14 -2.48	4 COS	-15.61 4 SIN	-6.94 -15.21	-0.36 -57.25	0.19 -4.26	23.50 0.43	-0.50 -11.50
4 SIN													
5 COS	3.31 6.64	21.53 14.75	4.57 -45.17	-1.04 -0.75	22.05 -14.53	-2.76 -5.50	5 COS	2.11 5 SIN	7.63 -1.70	11.90 -51.33	-1.15 -1.20	25.25 -0.43	-0.33 -3.52
5 SIN													
6 COS	16.20 10.89	-8.65 -14.59	5.85 -3.17	-0.13 0.42	1.56 -12.25	0.39 0.25	6 COS	0.27 6 SIN	-19.50 -36.11	-7.25 6.47	0.43 0.42	-2.72 0.27	1.13 2.20
6 SIN													
7 COS	12.26 -12.58	-22.88 20.95	4.23 -2.76	0.14 0.85	4.38 6.51	-2.54 -0.07	7 COS	-0.41 7 SIN	-8.77 9.54	0.79 -0.19	0.04 0.84	1.93 0.66	2.40 -1.95
7 SIN													
8 COS	6.68 7.05	83.40 -19.47	2.38 -13.90	-0.01 -0.09	29.57 -13.43	0.20 -0.81	8 COS	-5.31 8 SIN	-63.86 54.53	2.83 14.18	-0.03 -0.18	-21.66 26.35	0.75 -1.78
8 SIN													
9 COS	-7.34 1.06	27.60 -24.27	-2.16 -4.35	-1.57 0.44	-6.91 -10.16	2.44 -2.54	9 COS	-1.11 9 SIN	-4.45 10.30	-8.55 0.97	0.51 -0.72	11.32 16.00	-0.15 0.66
9 SIN													
10 COS	-2.53 0.61	114.55 -14.25	-2.68 -17.20	-0.06 0.03	13.29 13.31	-1.01 -2.31	10 COS	5.66 10 SIN	18.64 -87.06	-26.37 2.25	0.97 -0.28	25.73 -6.12	-0.86 0.74
10 SIN													
11 COS	-4.46 1.05	-66.58 29.23	-29.98 10.48	0.54 -0.48	-31.27 2.64	1.85 1.15	11 COS	-0.99 11 SIN	20.94 -1.57	-23.49 -6.76	-0.57 1.18	-18.54 -0.35	-2.30 -1.63
11 SIN													
12 COS	0.47 1.68	-48.94 35.47	10.73 -4.83	0.38 0.45	2.74 -14.74	-1.42 0.47	12 COS	1.33 12 SIN	37.01 -1.27	-9.14 16.78	-0.01 -8.48	-11.38 -0.44	-2.54 -0.94
12 SIN													

D59

## FFT COEFFICIENTS FOR DATA POINT

135

## FFT COEFFICIENTS FOR DATA POINT

136

HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL
1COS 1 SIN	480.06 0.00	-13.19 0.00	-13.75 0.00	0.70 0.00	-31.13 0.00	-63.26 0.00	nC	467.20 0.00	-15.32 0.00	-13.44 0.00	2.17 0.00	-29.48 0.00	-71.32 0.00
2 COS 2 SIN	11.17 -0.31	-5.68 -11.91	-4.48 -0.62	0.00 0.06	-4.31 1.75	-1.88 -8.05	2 COS 2 SIN	10.15 4.93	-13.70 1.25	-4.25 4.31	-0.29 0.50	-3.05 9.12	4.61 -6.26
3 COS 3 SIN	4.34 -1.79	18.63 -15.98	-2.53 -5.21	0.23 0.47	6.76 -13.73	2.32 -0.11	3 COS 3 SIN	-8.17 5.76	15.72 -34.93	-3.54 -1.12	0.17 -1.35	-1.86 -11.97	3.41 -2.50
4 COS 4 SIN	64.82 27.46	189.91 -45.57	-15.25 -24.98	-0.34 1.64	12.06 8.11	4.56 0.47	4 COS 4 SIN	7.19 -55.87	2.99 -48.77	-9.80 1.87	0.25 -0.07	-0.64 4.36	1.63 -3.09
5 COS 5 SIN	-1.84 8.38	-10.57 -1.16	8.89 -46.48	-0.69 1.58	12.43 -40.82	-2.07 4.21	5 COS 5 SIN	7.52 7.63	-1.09 -6.27	9.72 -53.52	-0.20 0.00	18.40 -33.75	-2.23 3.02
6 COS 6 SIN	25.23 5.05	-7.41 -11.20	4.81 7.88	0.09 -0.44	19.31 -2.25	0.43 0.10	6 COS 6 SIN	5.95 -7.07	30.21 -44.21	2.53 6.10	0.26 -0.01	17.53 -8.55	0.13 -0.37
7 COS 7 SIN	19.54 2.64	35.83 16.70	3.81 1.81	-0.12 0.88	15.18 6.95	0.70 -4.15	7 COS 7 SIN	-6.67 -4.83	24.52 8.51	3.04 -4.01	-0.39 -0.44	18.32 -4.25	2.32 0.68
8 COS 8 SIN	6.41 13.27	-46.18 42.25	36.38 8.50	-1.17 -0.28	-44.83 55.27	-0.18 0.30	8 COS 8 SIN	8.29 -3.03	-9.35 10.68	4.04 3.00	0.28 0.35	2.94 -0.79	0.00 -4.32
9 COS 9 SIN	-0.05 1.18	-23.21 -6.15	-7.97 -3.05	-0.39 0.05	7.09 46.10	-5.68 1.01	9 COS 9 SIN	5.34 -0.16	-29.38 -37.76	-5.29 10.62	0.12 0.50	23.32 -6.03	3.02 -2.86
10 COS 10 SIN	-6.87 -0.65	-82.74 210.67	11.23 23.14	0.43 -0.40	-13.24 21.34	4.71 -1.59	10 COS 10 SIN	-2.83 -2.42	-22.32 50.44	-11.90 17.40	0.04 0.05	26.76 -12.68	1.35 -1.41
11 COS 11 SIN	-1.51 6.27	52.51 -28.78	34.05 -26.23	0.38 -0.77	32.13 48.16	-3.72 1.27	11 COS 11 SIN	0.36 1.27	66.29 11.03	33.41 4.01	-0.11 -0.14	37.00 28.52	0.81 0.96
12 COS 12 SIN	-1.35 -1.89	180.12 -108.26	-35.71 -3.67	0.25 0.55	7.52 -20.30	2.76 -3.16	12 COS 12 SIN	0.27 1.33	29.44 -32.22	-9.67 1.45	0.49 0.74	10.31 19.12	1.01 -1.08

## FFT COEFFICIENTS FOR DATA POINT 137

## FFT COEFFICIENTS FOR DATA POINT 138

HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL
0C	477.89 0.00	-23.23 0.00	-17.27 0.00	0.70 0.00	-36.55 0.00	-75.02 0.00	0C	475.77 0.00	-18.08 0.00	-13.60 0.00	2.13 0.00	-31.95 0.00	-71.87 0.00
1 COS 1 SIN	-21.27 -1.70	-7.16 8.32	-4.27 -0.02	0.92 -0.82	-9.89 -6.57	4.19 -1.70	1 COS 1 SIN	-18.49 2.11	2.04 6.69	2.40 0.74	0.56 -0.91	-2.67 -14.22	7.84 0.12
2 COS 2 SIN	11.00 1.85	-6.82 -1.93	0.07 3.11	0.09 -0.43	-8.92 7.70	1.60 -2.87	2 COS 2 SIN	14.61 3.03	-16.54 -0.48	-2.34 3.57	0.50 -0.03	-2.38 4.02	-3.06 -1.40
3 COS 3 SIN	-1.28 7.38	14.26 -43.57	-6.41 -0.62	0.08 0.25	-7.99 -19.12	2.34 -0.67	3 COS 3 SIN	-0.33 6.47	22.61 -38.01	-4.54 -4.38	0.10 0.34	0.69 -18.05	3.88 -6.74
4 COS 4 SIN	4.10 -59.92	10.21 -193.81	-18.61 5.48	1.04 0.19	26.35 7.28	-1.54 -10.43	4 COS 4 SIN	19.95 -16.88	-7.49 -70.39	-6.82 -1.10	0.14 -0.59	6.79 4.20	5.70 -4.38
5 COS 5 SIN	5.82 10.11	-2.17 -0.94	10.88 -53.22	1.77 -1.55	-3.04 -34.78	1.47 1.25	5 COS 5 SIN	3.65 8.94	-14.44 -19.96	-6.94 -50.68	-0.66 -0.58	-9.07 -36.17	-6.20 0.97
6 COS 6 SIN	9.16 -2.21	29.79 30.51	-1.91 9.31	-0.04 -0.29	18.67 20.08	0.25 0.16	6 COS 6 SIN	12.15 8.17	14.70 3.77	2.56 9.32	0.26 -0.09	8.41 10.73	-5.80 -1.59
7 COS 7 SIN	-21.38 -5.10	21.47 -10.22	1.19 4.81	0.08 -0.84	20.98 -4.45	2.69 0.49	7 COS 7 SIN	-6.76 1.06	-1.89 3.48	4.20 1.80	0.00 -0.81	12.85 -1.31	-0.34 -1.16
8 COS 8 SIN	-4.09 4.57	30.45 28.68	-19.58 -5.73	-0.80 0.14	39.57 3.34	4.68 3.17	8 COS 8 SIN	6.16 0.45	-76.44 -21.85	2.14 11.73	-0.55 0.30	-12.97 -7.89	2.72 -3.11
9 COS 9 SIN	1.93 1.14	-84.49 -106.87	-13.99 10.38	-0.47 -0.63	-11.67 -20.92	1.34 -2.46	9 COS 9 SIN	5.43 0.63	-19.89 -33.88	-4.86 2.85	-0.41 0.02	4.47 -1.98	1.19 -0.86
10 COS 10 SIN	2.58 -5.06	-61.89 -85.59	-43.13 12.92	0.84 0.12	68.41 10.02	0.12 -1.51	10 COS 10 SIN	-2.28 -5.16	-73.23 -41.96	-29.20 14.83	0.24 -0.28	49.20 12.08	3.91 6.31
11 COS 11 SIN	-1.09 -0.24	18.32 76.65	0.47 20.34	0.71 -0.47	-0.59 12.23	-0.25 0.07	11 COS 11 SIN	0.19 3.54	14.93 0.44	28.51 14.92	0.45 -1.04	6.56 18.27	-4.07 0.28
12 COS 12 SIN	-4.05 -1.54	26.76 27.38	-8.62 -8.81	-0.40 0.65	-1.08 -37.71	0.44 -0.82	12 COS 12 SIN	0.99 1.83	-49.53 1.17	-0.40 -0.94	0.22 1.13	-40.76 -7.33	-4.17 3.34

## FFT COEFFICIENTS FOR DATA POINT

## FFT COEFFICIENTS FOR DATA POINT

## FFT COEFFICIENTS FOR DATA POINT

HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL
DC	504.27	-19.45	-16.50	0.59	-32.94	-78.15	DC	490.38	-13.65	-14.48	1.37	-35.70	-76.01
1 COS	0.00	0.00	0.00	0.00	0.00	0.00	1 COS	-22.62	6.27	1.44	-0.77	-5.64	4.53
1 SIN	-2.95	9.56	1.79	-1.23	-6.17	-0.18	1 SIN	-2.05	6.89	1.39	-1.33	-18.36	-1.88
2 COS	8.71	-7.02	-0.56	0.13	-0.89	-1.18	2 COS	7.91	-9.43	-1.81	-0.02	0.81	-6.46
2 SIN	2.70	-4.87	0.34	0.00	7.82	-2.44	2 SIN	-8.86	10.37	1.38	0.10	0.81	-3.14
3 COS	1.10	18.78	-5.11	0.52	0.21	8.44	3 COS	-10.91	-28.62	-5.26	0.47	-15.21	0.15
3 SIN	11.37	-41.03	-4.40	0.29	-18.67	-7.74	3 SIN	-4.90	-12.74	4.30	-0.28	-8.05	2.61
4 COS	15.30	-3.12	-21.94	0.71	26.79	-2.60	4 COS	14.71	-19.95	-0.49	0.69	-29.36	2.44
4 SIN	-72.93	-113.49	4.40	-1.15	26.62	-6.30	4 SIN	-48.71	21.33	8.30	-0.60	-7.04	-3.52
5 COS	6.19	-3.71	-2.88	-0.35	4.50	1.19	5 COS	9.26	-40.87	22.86	0.40	3.07	-1.38
5 SIN	-4.10	-31.26	-45.17	-1.09	-36.17	2.10	5 SIN	11.38	20.43	-45.62	0.55	-21.65	1.81
6 COS	21.32	32.24	7.19	0.05	19.24	-4.92	6 COS	8.42	5.41	-4.47	-0.10	6.44	-0.22
6 SIN	7.68	24.10	-1.77	-0.31	9.24	-2.88	6 SIN	14.13	-16.84	7.90	-0.23	2.22	1.84
7 COS	-11.26	14.46	5.14	0.06	27.62	4.43	7 COS	-5.04	9.36	-3.33	-0.11	11.90	2.52
7 SIN	-5.55	15.87	-6.66	0.34	-0.51	-1.03	7 SIN	4.72	5.21	1.38	0.54	2.61	5.30
8 COS	5.93	-6.47	-8.95	-0.73	21.35	0.30	8 COS	4.34	-36.59	-3.66	0.15	-17.20	-2.04
8 SIN	-2.18	-28.85	-3.46	-0.24	-9.17	-2.21	8 SIN	8.97	22.75	10.09	-0.68	16.69	-1.91
9 COS	6.39	-34.18	-7.17	0.23	14.31	1.11	9 COS	0.32	15.98	-0.71	-0.52	3.48	-1.99
9 SIN	2.13	-83.45	15.32	-0.18	-32.28	3.88	9 SIN	4.17	-18.19	8.63	-0.30	-19.87	1.61
10 COS	4.42	-117.66	-47.33	0.27	41.29	-4.86	10 COS	-1.57	0.52	-14.74	-0.24	-10.65	2.97
10 SIN	-11.17	-124.10	6.20	0.11	15.19	-1.16	10 SIN	1.15	20.22	9.59	-0.04	-11.48	-0.04
11 COS	5.47	5.49	25.42	0.37	28.02	1.52	11 COS	-2.30	-9.16	-2.54	-0.88	0.75	1.94
11 SIN	-0.25	92.49	-9.52	-0.63	-8.30	-1.86	11 SIN	1.97	28.16	22.93	-0.22	22.13	-0.96
12 COS	3.98	131.55	-24.75	0.21	-12.28	-6.02	12 COS	-0.27	33.52	-3.75	-0.31	-12.18	3.59
12 SIN	-2.55	17.72	-12.16	0.78	26.00	-2.22	12 SIN	0.70	24.08	-6.79	0.53	23.53	-0.46

## FFT COEFFICIENTS FOR DATA POINT 141

## FFT COEFFICIENTS FOR DATA POINT 142

HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL
DC	515.95 0.00	-17.55 0.00	-13.68 0.00	-0.05 0.00	-34.70 0.00	-78.44 0.00	DC	471.91 0.00	-18.33 0.00	-12.26 0.00	0.24 0.00	-33.61 0.00	-72.69 0.00
1 COS 1 SIN	-16.84 9.27	3.26 3.19	1.87 -1.26	0.54 -12.48	-5.83 4.23	1.24 -0.06	1 COS 1 SIN	-23.04 -1.98	1.52 8.27	3.09 1.07	0.00 -0.60	-0.85 -11.64	5.16 -2.03
2 COS 2 SIN	10.53 2.37	-11.51 -3.58	1.60 -0.14	0.21 -0.06	0.65 4.48	-1.80 2.57	2 COS 2 SIN	12.09 0.58	-17.30 4.48	-2.24 5.05	-1.06 -0.08	-3.53 9.36	2.40 -3.67
3 COS 3 SIN	1.05 6.57	27.83 -31.77	0.00 -7.38	-0.73 -0.20	0.20 -13.03	0.01 3.53	3 COS 3 SIN	-1.06 7.48	18.30 -49.60	-4.95 -0.40	-0.46 0.02	-6.48 -11.88	3.88 -4.42
4 COS 4 SIN	36.40 -57.42	48.48 -76.46	-15.95 -0.80	1.60 -0.08	-14.60 10.24	5.88 -6.53	4 COS 4 SIN	-39.04 -66.70	-105.00 -46.89	-0.15 17.41	0.24 -0.88	-6.93 -13.23	-6.80 -4.19
5 COS 5 SIN	8.56 1.81	11.51 -12.41	3.62 -55.95	1.25 -0.33	20.62 -28.72	-2.55 -1.20	5 COS 5 SIN	0.71 3.76	-41.79 -13.26	17.48 -4.00	-0.02 -0.54	10.01 -41.40	-6.77 3.09
6 COS 6 SIN	1.51 10.01	-40.18 18.99	-3.14 9.04	-0.36 0.13	-9.31 16.12	3.16 -2.99	6 COS 6 SIN	8.50 -1.55	36.03 5.58	-6.26 -5.36	0.28 0.31	21.32 1.59	-5.08 -3.21
7 COS 7 SIN	1.30 -9.53	-45.35 47.93	-0.10 5.96	-0.20 -0.11	2.36 12.82	4.37 -1.10	7 COS 7 SIN	-4.22 8.62	21.43 -27.47	-0.65 0.96	0.02 0.22	4.42 -3.67	-1.34 -0.99
8 COS 8 SIN	8.34 -2.33	-57.84 -14.84	2.48 6.67	-0.44 0.11	-23.90 1.08	0.09 0.46	8 COS 8 SIN	-8.38 1.61	-24.07 -61.63	-11.19 9.91	0.04 0.54	-29.33 -40.09	-3.39 1.72
9 COS 9 SIN	-1.46 6.34	17.35 -35.05	-8.89 5.57	0.09 0.82	-6.56 -4.73	1.59 2.08	9 COS 9 SIN	7.86 2.65	-104.13 85.88	8.23 10.36	-0.22 0.99	-22.58 11.01	-2.95 -1.53
10 COS 10 SIN	1.06 -6.10	-68.66 -78.43	-33.69 6.58	0.53 0.15	-3.74 -6.60	0.13 -0.32	10 COS 10 SIN	-9.28 -6.97	-18.39 174.79	-9.13 26.72	0.13 0.20	42.01 7.78	2.39 -4.23
11 COS 11 SIN	-2.54 -0.31	-65.48 107.40	8.45 36.50	0.03 -0.02	-26.40 25.72	2.09 0.63	11 COS 11 SIN	-2.20 0.52	9.80 -6.21	-3.61 -2.21	-0.02 -1.29	-19.97 -33.56	3.72 -4.11
12 COS 12 SIN	1.85 2.07	45.90 -102.03	-18.50 5.03	-0.27 -1.52	10.49 2.41	0.17 2.03	12 COS 12 SIN	-3.85 6.18	-120.80 -98.65	15.60 18.35	0.02 1.17	-14.54 1.21	1.16 -3.23

D63

## FFT COEFFICIENTS FOR DATA POINT

HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL
DC	470.80 0.00	-15.46 0.00	-14.30 0.00	0.32 0.00	-32.91 0.00	-66.23 0.00	DC	468.19 0.00	-17.83 0.00	-16.88 0.00	-0.45 0.00	-32.95 0.00	-71.14 0.00
1 COS 1 SIN	-22.90 -2.43	5.48 5.96	1.81 0.30	0.80 -0.98	-5.46 -10.51	4.92 3.15	1 COS 1 SIN	-20.80 0.45	2.06 6.93	-2.71 1.24	1.17 -1.03	-1.47 -15.51	3.63 -0.29
2 COS 2 SIN	6.10 4.13	-6.40 1.75	-2.88 4.65	0.17 0.08	-5.26 8.91	-0.82 -1.90	2 COS 2 SIN	10.90 1.22	-13.28 3.48	3.23 6.21	0.54 0.76	4.95 10.94	-12.26 -3.10
3 COS 3 SIN	-2.72 1.79	-7.84 -13.74	-0.69 -0.24	1.03 -0.21	-5.44 -10.94	2.45 -0.72	3 COS 3 SIN	-3.46 -2.05	53.74 -16.80	-2.25 -5.38	0.61 -0.59	10.68 -9.33	5.07 -2.92
4 COS 4 SIN	30.18 -34.39	74.58 -28.69	-8.24 -8.43	0.25 -0.76	-13.36 15.52	-3.14 -2.88	4 COS 4 SIN	41.47 2.75	20.05 -68.28	-9.30 1.99	0.39 0.26	-6.08 4.55	4.84 -2.19
5 COS 5 SIN	-4.24 6.70	-13.83 10.93	17.22 -50.78	0.55 0.83	18.10 -31.28	0.88 -0.56	5 COS 5 SIN	-4.76 5.31	21.73 -32.70	8.48 -43.18	0.91 -0.43	25.62 -24.79	-2.14 -0.29
6 COS 6 SIN	-2.26 1.52	7.06 -0.29	-7.53 3.67	0.24 -0.86	-2.87 4.70	0.12 0.65	6 COS 6 SIN	-7.24 8.22	-10.86 4.86	-1.99 -8.79	-0.04 -0.11	-11.01 -1.76	5.33 0.42
7 COS 7 SIN	12.69 -0.93	9.88 29.32	-1.54 5.36	0.34 0.17	-0.41 8.99	0.13 -4.25	7 COS 7 SIN	5.04 2.83	-35.23 39.39	0.67 -4.01	0.01 -0.79	-8.25 7.84	1.87 1.47
8 COS 8 SIN	5.06 1.93	-28.42 6.38	13.67 -1.16	-0.28 -0.06	-23.71 4.44	1.59 1.39	8 COS 8 SIN	6.94 0.76	-44.22 -13.62	-1.07 2.25	0.26 0.07	-14.34 1.22	0.37 -4.02
9 COS 9 SIN	-6.98 -5.15	-29.00 -75.55	-9.32 -3.93	-0.13 -0.04	-27.47 -6.09	-3.75 -3.22	9 COS 9 SIN	-2.71 6.54	-12.30 -40.33	-8.62 2.48	-0.15 0.28	1.90 -8.79	3.99 -0.66
10 COS 10 SIN	-6.42 -0.05	-13.72 46.46	-25.07 3.15	0.37 -0.23	36.42 18.21	0.50 -0.78	10 COS 10 SIN	-2.61 -5.10	-34.68 -79.17	-28.49 -6.46	0.49 -0.09	11.91 11.93	0.41 4.39
11 COS 11 SIN	-3.03 -1.99	-42.86 -2.24	-16.77 -23.08	-0.16 0.34	-12.68 -5.18	0.29 1.16	11 COS 11 SIN	-4.52 1.00	-54.60 63.34	17.06 38.45	-0.39 -0.78	11.61 -11.51	0.59 -0.33
12 COS 12 SIN	-0.71 -0.04	-4.35 -72.20	-10.20 13.00	0.03 0.49	-3.07 22.70	0.95 -2.88	12 COS 12 SIN	-0.71 4.31	8.48 -15.41	-11.90 2.07	-0.44 0.19	-15.69 -20.26	2.56 -4.78

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## FFT COEFFICIENTS FOR DATA POINT 145

## FFT COEFFICIENTS FOR DATA POINT 146

HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL
0C	483.30 0.00	-18.47 0.00	-16.35 0.00	3.35 0.00	-34.97 0.00	-76.35 0.00	0C	508.23 0.00	-14.15 0.00	-14.24 0.00	0.08 0.00	-34.59 0.00	-76.21 0.00
1 COS 1 SIN	-22.53 -4.96	-3.88 9.00	-3.41 2.39	-0.09 -0.80	-6.67 -15.00	7.56 2.43	1 COS 1 SIN	-21.29 -0.56	6.22 9.32	0.85 2.84	1.16 -1.04	-4.79 -16.31	2.25 1.52
2 COS 2 SIN	9.66 -10.67	-7.40 -1.31	0.89 -1.12	0.07 0.86	-0.82 4.24	-4.35 -1.08	2 COS 2 SIN	11.25 1.54	-14.07 1.68	-2.78 1.23	0.19 0.69	-4.22 6.44	-3.61 -2.03
3 COS 3 SIN	8.38 -5.81	-2.86 -22.80	-4.52 -0.26	-0.08 0.05	-10.83 -6.28	3.05 -5.09	3 COS 3 SIN	-3.13 5.26	36.96 -24.34	-6.41 -4.04	0.22 -0.11	-1.66 -13.72	6.57 -2.00
4 COS 4 SIN	29.15 54.95	-76.59 -53.30	5.42 -7.49	0.05 -0.66	-5.66 -15.95	-2.82 -0.20	4 COS 4 SIN	23.74 -5.95	-3.03 -74.00	-5.76 -2.46	1.03 -0.60	-1.28 -1.59	2.25 -2.23
5 COS 5 SIN	4.47 18.24	-10.41 -48.91	23.35 -45.76	-0.29 -0.34	21.10 -59.12	-2.08 1.48	5 COS 5 SIN	4.27 -3.91	-2.53 -42.50	3.24 -51.57	-0.10 -0.12	11.32 -40.10	-7.57 1.74
6 COS 6 SIN	-3.44 9.85	13.05 -3.67	-8.81 -0.18	-0.38 -0.65	-0.64 1.08	0.79 2.29	6 COS 6 SIN	0.94 18.61	-1.42 16.53	4.83 5.61	0.25 -0.09	5.04 12.88	1.62 -5.02
7 COS 7 SIN	0.41 -4.49	-17.19 23.64	-1.16 -4.57	0.38 0.21	-5.65 -0.88	0.35 -2.83	7 COS 7 SIN	-2.26 5.67	16.22 43.29	5.80 -0.53	-0.67 0.16	6.75 1.18	0.86 2.51
8 COS 8 SIN	2.52 -7.59	27.91 -7.96	2.33 -4.74	-0.59 0.66	16.76 -10.94	-2.22 7.00	8 COS 8 SIN	7.55 -1.05	-12.22 -7.63	9.84 -1.58	-0.03 0.21	-2.84 -7.92	6.95 3.60
9 COS 9 SIN	0.32 -2.40	-13.28 1.77	0.37 1.69	-0.14 0.87	-9.94 8.57	2.64 1.73	9 COS 9 SIN	8.78 2.84	-52.21 -38.52	-1.07 4.52	0.33 -0.21	-13.33 -8.52	-0.54 -0.67
10 COS 10 SIN	-0.34 -0.47	24.83 -13.14	-14.71 0.72	-0.75 -0.76	12.71 -9.90	1.83 -2.03	10 COS 10 SIN	-6.60 -3.04	-112.26 18.93	-28.98 21.33	-0.17 -0.09	40.53 12.87	8.45 -1.47
11 COS 11 SIN	-1.74 0.70	-22.98 23.44	-13.45 -15.59	-0.36 0.06	-23.73 -32.69	-0.63 -5.73	11 COS 11 SIN	-1.06 2.09	63.59 74.25	46.21 -8.74	-0.02 -0.90	17.38 15.35	3.73 -2.87
12 COS 12 SIN	-1.09 -0.12	34.75 -64.66	-7.57 5.70	0.20 -0.02	12.32 -15.99	-3.14 4.76	12 COS 12 SIN	1.00 4.26	13.03 -36.99	-10.82 9.87	-0.23 0.81	9.46 12.43	2.44 -6.61

## FFT COEFFICIENTS FOR DATA POINT

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## FFT COEFFICIENTS FOR DATA POINT

148

HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL
0C 0 SIN	504.84 0.00	-19.41 0.00	-11.27 0.00	0.20 0.00	-30.55 0.00	-83.14 0.00	DC	488.65 0.00	-17.56 0.00	-15.28 0.00	0.34 0.00	-33.07 0.00	-70.09 0.00
1 COS 1 SIN	-18.44 1.90	2.31 5.30	4.17 0.01	0.50 -0.88	-0.39 -14.99	6.37 1.35	1 COS 1 SIN	-22.54 -0.16	3.69 6.45	0.00 -0.69	1.32 -0.14	-3.87 -13.92	0.93 1.44
2 COS 2 SIN	10.66 2.80	-19.73 7.57	1.45 7.31	0.60 -0.26	1.62 8.45	-6.86 -8.02	2 COS 2 SIN	11.73 1.74	-13.89 5.64	-1.81 8.41	0.15 0.55	-1.72 10.34	-3.02 -0.68
3 COS 3 SIN	0.96 8.51	24.13 -41.51	-0.42 -2.70	0.90 -0.26	3.22 -13.45	0.60 -4.51	3 COS 3 SIN	-3.11 0.39	-21.65 -21.65	1.97 1.97	-0.37 -0.12	-4.87 -9.16	4.29 -1.58
4 COS 4 SIN	-57.44 -64.14	-68.63 23.92	5.91 25.97	0.81 -1.07	-1.23 -11.42	-5.50 -1.29	4 COS 4 SIN	-53.67 28.03	-3.45 -20.78	9.30 3.23	-1.11 -0.28	9.69 -5.26	4.13 0.85
5 COS 5 SIN	-7.28 -4.18	-50.24 30.49	28.48 -38.02	-0.05 -1.28	-0.68 -17.18	-1.98 0.29	5 COS 5 SIN	-7.00 4.00	19.30 0.64	1.92 -51.42	-1.15 -0.71	21.61 -25.75	4.64 1.34
6 COS 6 SIN	-1.11 -6.15	8.26 14.03	-6.93 -1.40	-0.18 0.20	2.14 5.35	3.07 2.45	6 COS 6 SIN	0.01 21.53	0.38 -11.44	5.24 2.86	0.05 -0.05	4.15 -2.30	-0.41 -2.20
7 COS 7 SIN	-2.08 5.50	9.12 -3.63	1.47 -0.01	0.68 -0.46	3.76 -0.90	7.31 -1.54	7 COS 7 SIN	-0.78 15.85	4.15 -5.54	5.82 -1.92	0.46 -0.86	3.67 0.98	-3.18 -3.71
8 COS 8 SIN	-12.97 -2.57	-18.66 -15.91	3.28 5.08	-0.84 -0.11	-36.23 -6.72	3.81 -2.47	8 COS 8 SIN	-5.50 4.55	-92.64 -47.68	-1.93 12.27	0.26 -0.14	-51.89 -22.00	-0.15 0.18
9 COS 9 SIN	1.83 0.91	-24.74 100.41	5.28 -0.13	-0.36 0.40	-4.49 30.29	-1.09 -3.67	9 COS 9 SIN	4.33 -3.84	30.23 62.22	1.66 -1.15	0.85 0.12	34.78 24.16	-0.63 -0.77
10 COS 10 SIN	-6.83 0.21	29.18 152.48	1.74 17.34	-0.16 -0.46	32.00 -4.11	-0.23 4.20	10 COS 10 SIN	1.89 2.49	121.75 -70.72	2.09 -3.63	0.29 -0.53	23.50 -26.31	-2.92 -4.00
11 COS 11 SIN	1.01 -1.57	-25.73 -13.09	6.37 -25.07	-0.33 0.07	-36.65 -15.09	-4.35 -1.21	11 COS 11 SIN	-0.03 2.85	22.53 -8.32	19.64 -22.43	0.02 -0.25	13.77 -17.25	1.83 0.16
12 COS 12 SIN	-0.49 7.35	-224.52 23.04	30.55 19.52	-0.14 -0.76	-56.06 -20.27	2.31 2.12	12 COS 12 SIN	3.55 -3.77	14.29 -45.67	-10.47 8.19	0.51 -0.09	14.97 14.37	4.30 2.57

## FFT COEFFICIENTS FOR DATA POINT 149

## FFT COEFFICIENTS FOR DATA POINT 150

HARMONIC	AC1	AC2	AC3	PLL1	ACC5	N2BL	HARMONIC	AC1	AC2	AC3	FLL1	ACC5	N2BL
DC	481.90	-15.09	-13.91	2.67	-30.66	-73.82	DC	499.24	-18.55	-16.02	0.98	-31.38	-75.60
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 COS	-17.13	1.21	0.46	-1.24	-2.37	7.02	1 COS	-18.23	-0.64	-2.67	1.45	-3.18	2.88
1 SIN	0.36	8.70	3.36	-0.25	-15.38	-4.83	1 SIN	1.61	6.99	1.72	-1.02	-12.94	4.74
2 COS	9.76	-5.87	5.08	-0.01	6.22	-6.05	2 COS	9.53	-7.10	0.90	0.44	-0.60	-5.32
2 SIN	-3.03	3.44	-0.27	-0.45	3.48	-1.57	2 SIN	6.62	-3.19	3.83	0.69	10.79	-11.43
3 COS	-0.24	-4.65	2.17	0.90	-0.33	-6.14	3 COS	-2.05	8.05	-1.70	0.18	0.89	1.46
3 SIN	17.23	-39.68	1.88	0.41	-6.50	-2.80	3 SIN	13.85	-25.57	1.93	0.17	-7.11	-0.09
4 COS	17.00	-51.21	3.78	-1.06	-20.29	1.13	4 COS	-5.91	50.97	-0.08	-0.79	7.14	3.68
4 SIN	8.26	15.69	-4.38	-0.05	17.43	-4.24	4 SIN	0.47	-13.97	-6.43	0.22	24.74	3.55
5 COS	7.72	-34.41	24.63	0.44	10.00	-2.45	5 COS	-0.47	18.68	6.74	0.60	9.95	-0.25
5 SIN	18.94	-10.04	-46.11	-0.05	-40.13	3.30	5 SIN	4.49	19.85	-51.83	0.49	-19.83	-1.66
6 COS	2.11	7.11	-11.95	-0.35	-7.15	0.54	6 COS	7.30	-9.99	8.23	0.06	-8.06	-2.72
6 SIN	10.00	-10.30	-0.94	0.62	0.72	4.66	6 SIN	3.81	-21.82	-5.03	0.05	-14.50	-0.43
7 COS	-4.19	2.19	-3.46	0.11	4.39	-0.34	7 COS	3.78	6.80	3.97	0.27	1.73	1.23
7 SIN	-7.45	7.03	-7.79	0.33	-2.07	-1.00	7 SIN	0.02	-0.11	-6.92	0.61	-0.96	0.99
8 COS	-2.45	-19.54	-7.73	0.67	-12.83	-0.60	8 COS	-3.15	-85.20	-6.87	0.57	-41.76	-5.39
8 SIN	-4.03	-61.97	-2.71	0.24	-22.32	-3.75	8 SIN	7.40	-51.75	2.98	-0.92	-6.08	-1.88
9 COS	-6.96	12.37	-2.74	-0.71	15.70	-1.54	9 COS	-3.04	56.35	-3.90	0.76	24.37	2.74
9 SIN	2.86	11.69	0.06	0.20	5.92	0.24	9 SIN	12.96	27.47	2.94	-0.62	10.95	-3.93
10 COS	-1.92	0.79	-18.62	-0.16	36.62	-0.64	10 COS	0.69	35.64	-12.10	-0.17	43.25	1.92
10 SIN	-4.63	23.01	-2.02	-0.50	0.87	3.24	10 SIN	1.81	13.23	1.93	0.69	-12.66	-1.37
11 COS	2.30	-6.17	-1.96	-0.05	-13.05	2.35	11 COS	0.16	-23.06	-32.10	-0.02	-19.45	0.91
11 SIN	-3.44	-16.08	-20.41	-0.36	11.00	0.50	11 SIN	-2.13	5.74	-5.27	0.39	3.27	-0.09
12 COS	1.63	-49.51	7.66	0.06	-20.81	-0.19	12 COS	-4.00	-72.21	2.63	0.38	-0.70	-2.72
12 SIN	1.78	0.21	8.35	0.07	-32.14	0.72	12 SIN	4.56	-81.10	19.64	0.19	-21.85	1.89

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## FFT COEFFICIENTS FOR DATA POINT 151

HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL
DC	447.94	-19.27	-16.28	-0.91	-30.42	-79.05	DC	451.23	-12.12	-12.65	0.71	-30.14	-74.86
1 COS	-22.38	-2.03	-2.96	1.11	-2.52	5.22	1 COS	-24.28	9.54	3.21	0.81	-3.91	1.79
1 SIN	0.53	7.35	0.10	-0.49	-11.23	2.38	1 SIN	-2.52	4.67	-0.15	-1.11	-11.10	3.25
2 COS	8.44	-5.03	2.34	-0.11	2.51	3.05	2 COS	6.16	-6.19	-2.64	0.23	-2.68	-0.75
2 SIN	4.04	1.17	4.12	0.20	11.05	-2.82	2 SIN	2.52	-1.64	4.57	-0.11	9.05	-2.10
3 COS	-2.43	10.31	-1.55	0.80	2.60	0.60	3 COS	-4.76	15.43	2.17	1.28	6.69	-2.80
3 SIN	9.28	-24.27	-0.55	-0.09	-7.70	1.63	3 SIN	5.94	0.57	-2.48	-0.54	-4.42	4.57
4 COS	15.62	12.97	-15.92	1.11	-8.28	5.06	4 COS	83.05	189.06	-15.27	0.24	-7.71	7.64
4 SIN	-68.63	-42.32	10.97	-0.91	18.13	-2.35	4 SIN	12.96	-17.74	-22.80	1.49	21.33	-1.38
5 COS	2.71	14.65	1.36	0.96	17.19	-3.58	5 COS	0.08	-27.69	6.66	1.09	-1.80	-7.23
5 SIN	2.19	-10.33	-43.37	-0.91	-21.95	4.79	5 SIN	1.27	3.13	-46.05	0.55	-37.00	2.67
6 COS	16.85	-11.94	4.35	0.83	-0.31	-1.69	6 COS	15.68	12.02	10.42	-0.48	19.19	0.84
6 SIN	7.87	6.84	-6.91	0.35	-4.28	3.06	6 SIN	0.59	-61.06	9.50	-0.05	-10.99	-0.65
7 COS	3.90	0.25	5.24	0.01	6.46	4.43	7 COS	24.15	15.89	5.84	0.00	1.52	-4.21
7 SIN	-7.31	31.25	-4.60	-0.83	2.73	1.26	7 SIN	5.40	-7.28	4.42	0.34	9.01	-0.20
8 COS	7.18	-104.08	10.63	0.26	-42.76	1.69	8 COS	10.08	-49.50	14.44	-0.54	-63.82	-1.51
8 SIN	-7.54	62.42	10.33	0.53	14.58	-4.42	8 SIN	2.40	-77.80	2.72	0.34	-11.97	-1.58
9 COS	4.52	1.90	-4.28	0.15	9.96	-2.00	9 COS	5.94	-77.38	0.28	-0.22	-36.89	-5.31
9 SIN	-2.85	-43.85	7.84	0.06	-3.17	3.20	9 SIN	-10.37	-0.10	-8.12	0.63	35.07	0.02
10 COS	-1.24	-55.89	-22.88	0.09	34.40	4.02	10 COS	-2.96	-111.87	-2.73	0.10	-7.84	3.02
10 SIN	-3.37	-35.88	12.06	-0.48	-23.61	-0.58	10 SIN	-7.25	124.70	20.20	-0.09	-19.84	-3.52
11 COS	0.62	17.79	-8.49	-0.46	-29.46	1.22	11 COS	-2.75	2.15	33.55	-0.19	48.67	-3.57
11 SIN	-0.17	59.46	10.21	-0.19	26.25	-3.52	11 SIN	-1.17	-38.73	-24.05	-0.81	18.53	-2.86
12 COS	1.64	-53.36	4.95	-0.61	-20.27	0.38	12 COS	-0.31	300.03	-41.11	0.08	2.49	-2.20
12 SIN	2.13	21.90	-1.64	0.49	-1.32	-4.29	12 SIN	-1.38	18.14	-18.37	0.64	20.05	-6.00

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## FFT COEFFICIENTS FOR DATA POINT 152

## FFT COEFFICIENTS FOR DATA POINT 153

## FFT COEFFICIENTS FOR DATA POINT 154

HARMONIC	ACC1	ACC2	ACC3	PLL1	ACCS	N2BL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACCS	N2BL
DC	443.14 0.00	-15.87 0.00	-17.22 0.00	0.31 0.00	-33.97 0.00	-70.47 0.00	NC	512.41 0.00	-17.77 0.00	-17.89 0.00	2.76 0.00	-32.57 0.00	-77.50 0.00
1 COS 1 SIN	-21.57 -1.56	2.73 7.36	-3.17 1.12	1.34 -1.53	-5.70 -11.33	5.40 -0.18	1 COS 1 SIN	-18.38 -0.15	-1.59 8.15	-4.58 2.13	-0.05 0.17	-0.92 -14.38	4.75 6.26
2 COS 2 SIN	5.14 3.85	-4.48 4.84	1.63 6.54	0.07 0.23	-5.32 10.71	2.76 -5.04	2 COS 2 SIN	11.64 1.70	-5.25 -4.24	-0.93 1.28	0.22 -0.58	-0.68 10.38	-2.04 -4.68
3 COS 3 SIN	-7.60 7.60	15.66 -23.45	-1.49 0.69	-0.15 -0.21	-4.53 -8.07	1.68 1.21	3 COS 3 SIN	-3.70 -0.43	13.92 -28.77	-6.94 -1.16	-0.90 0.11	-1.97 -13.99	0.32 -1.52
4 COS 4 SIN	-6.99 16.18	68.17 32.94	5.51 -5.86	-0.47 0.60	-30.52 -9.25	0.74 0.97	4 COS 4 SIN	-2.73 -20.56	38.76 -8.61	-3.43 3.11	0.50 -0.28	0.79 15.70	5.72 -3.97
5 COS 5 SIN	1.22 -1.13	-13.68 46.68	8.45 -54.65	0.15 0.53	6.86 -6.45	-3.60 -0.02	5 COS 5 SIN	7.75 5.28	-19.95 13.72	16.10 -45.20	0.32 0.46	9.67 -16.76	-3.15 -6.06
6 COS 6 SIN	-7.94 14.74	19.34 -49.77	6.89 6.02	0.73 0.34	19.28 -15.39	1.26 -0.61	6 COS 6 SIN	0.48 8.13	-1.97 -7.40	6.62 -5.79	0.23 -0.42	2.50 -9.35	-3.32 -0.86
7 COS 7 SIN	12.94 1.71	40.12 -8.05	8.35 -2.02	0.66 -0.22	17.84 4.07	-1.70 -1.52	7 COS 7 SIN	-4.19 -2.93	-4.27 -4.12	2.65 -6.37	-0.62 -0.18	9.69 -7.86	3.72 -0.39
8 COS 8 SIN	-1.54 5.91	-12.39 31.17	1.92 1.07	0.49 0.40	8.35 9.85	2.71 5.16	8 COS 8 SIN	4.72 6.10	-26.52 1.25	9.18 5.30	-0.31 -0.66	-19.34 4.86	3.77 -6.20
9 COS 9 SIN	-8.28 1.82	15.93 65.73	-1.53 3.77	0.33 0.26	18.86 3.57	1.79 -0.69	9 COS 9 SIN	-1.07 1.78	3.81 -17.06	-2.87 2.71	-0.18 -0.89	5.93 5.60	0.07 2.09
10 COS 10 SIN	2.64 -2.99	29.69 -52.30	-19.44 -1.60	0.01 0.53	35.47 -10.58	3.16 2.82	10 COS 10 SIN	-5.31 -2.08	10.56 10.74	-21.57 4.55	0.60 0.02	60.84 -12.23	1.65 -2.69
11 COS 11 SIN	-0.26 2.41	-32.69 -30.05	12.59 -8.95	-0.33 -0.02	5.44 0.32	3.41 -2.82	11 COS 11 SIN	-1.90 0.16	-19.58 9.37	-25.59 10.07	0.28 -0.45	-7.42 7.25	-4.54 -4.09
12 COS 12 SIN	-2.66 -1.23	17.53 -20.66	-8.31 2.49	-0.85 0.12	2.83 6.52	3.11 3.75	12 COS 12 SIN	-1.15 0.92	30.39 3.45	-6.79 -2.53	-0.28 -0.35	-3.61 -12.20	3.24 0.23

D69

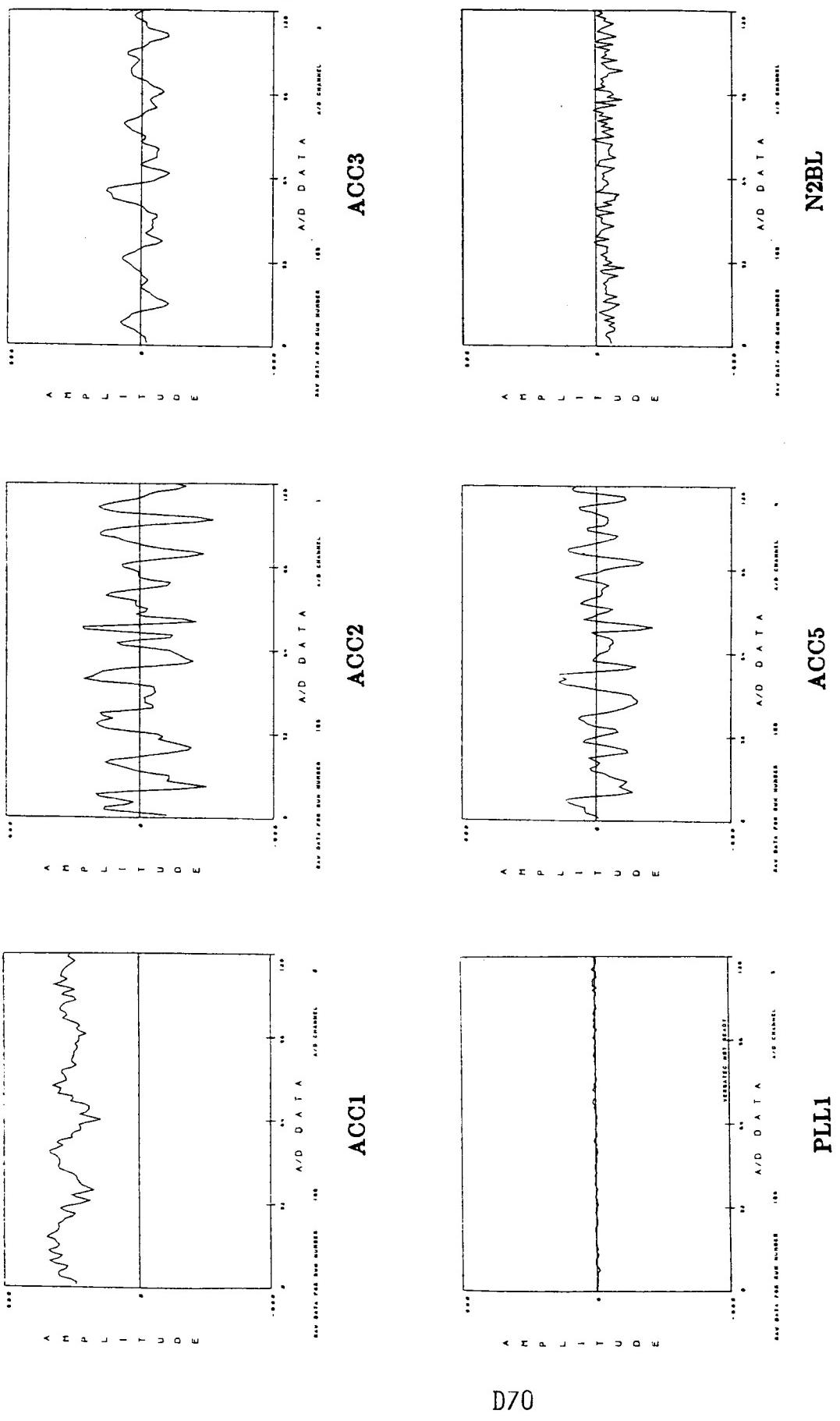


Figure D4

Analog presentation of vibratory response data for data point 155.  
Data window is 1 rotor revolution, with 128 samples/rev.

## FFT COEFFICIENTS FOR DATA POINT

155

HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL
RC	-2.89 0.00	4.03 0.00	-0.53 0.00	-222.05 0.00	-20.82 0.00	-2.14 0.00
1 COS 1 SIN	0.08 -0.01	0.07 -0.02	0.03 -0.03	1.41 -0.15	0.07 -0.10	0.01 0.00
2 COS 2 SIN	0.01 -0.01	0.03 -0.01	0.03 0.03	1.51 -0.34	0.07 -0.06	0.00 0.01
3 COS 3 SIN	0.03 -0.02	0.01 -0.04	0.01 -0.01	1.52 -0.40	0.20 -0.09	0.07 -0.03
4 COS 4 SIN	-0.31 -0.04	-1.52 0.09	0.90 0.03	1.60 -0.78	0.02 -0.05	-0.02 -0.04
5 COS 5 SIN	0.05 0.02	0.04 -0.03	0.02 -0.03	1.74 -0.88	0.08 -0.19	0.04 -0.02
6 COS 6 SIN	0.03 -0.01	0.01 -0.02	-0.03 -0.02	1.77 -1.07	0.13 -0.08	0.08 0.01
7 COS 7 SIN	0.06 -0.01	-0.05 0.00	-0.01 -0.08	1.86 -1.43	0.15 -0.16	0.00 -0.09
8 COS 8 SIN	0.06 -0.08	-0.02 -0.03	-0.06 0.01	2.07 -1.48	0.13 -0.20	0.01 -0.03
9 COS 9 SIN	0.05 -0.05	-0.04 0.03	-0.06 -0.01	2.31 -1.80	0.18 0.00	0.04 -0.01
10 COS 10 SIN	-0.02 -0.07	-0.03 0.03	-0.04 0.00	2.56 -2.14	0.17 -0.19	0.03 -0.03
11 COS 11 SIN	0.01 -0.04	-0.01 0.02	-0.01 0.02	2.93 -2.54	0.26 -0.22	0.04 -0.04
12 COS 12 SIN	-0.10 -0.06	-0.03 -0.04	-0.10 0.00	3.58 -3.15	0.38 -0.22	0.05 -0.05

D71

Used to Calculate Global Transfer Matrix

Rotor RPM = 1100  
LSE Batch Size = 48  
Forcing Amplitude Limit  $\pm 0.33^\circ$  Root Pitch

## FFT COEFFICIENTS FOR DATA POINT 156

HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	FLL1	ACCS	N2BL
0C	517.97	-17.72	-14.59	0.52	-34.42	-75.37	DC	508.63	-12.30	-16.84	1.50	-33.16	-78.34
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 COS	17.70	-6.94	-0.13	-0.37	9.84	-4.36	1 COS	14.13	-2.16	-2.79	-0.20	11.29	0.28
1 SIN	-9.57	-6.98	-2.91	1.32	6.69	0.37	1 SIN	-8.48	-7.15	-1.83	0.87	2.63	-2.19
2 COS	5.95	-4.41	2.30	-0.59	5.96	-1.79	2 COS	0.24	7.93	3.48	0.56	6.25	-3.35
2 SIN	-7.10	13.46	4.24	-0.25	7.37	4.33	2 SIN	-5.81	6.58	5.61	0.18	6.70	-0.80
3 COS	0.96	28.74	-1.47	-0.12	11.04	5.41	3 COS	-8.72	11.44	2.67	0.19	7.45	-0.21
3 SIN	-10.01	7.80	-6.03	0.42	-6.61	2.33	3 SIN	-1.44	4.41	2.81	0.06	1.02	6.01
4 COS	-37.44	-12.79	4.33	-0.41	7.97	-0.44	4 COS	-32.27	-85.15	-9.19	0.11	23.92	-6.93
4 SIN	0.71	-12.21	6.65	-0.32	14.65	0.73	4 SIN	-46.38	-86.89	17.96	0.08	1.11	0.85
5 COS	18.20	-3.36	17.76	0.15	17.38	-3.42	5 COS	9.14	9.12	6.48	0.54	24.40	-2.34
5 SIN	3.65	-13.70	-51.12	1.47	-28.68	3.25	5 SIN	4.37	-17.22	-35.55	1.55	-37.69	1.16
6 COS	-9.22	-5.49	-0.91	0.04	1.84	3.51	6 COS	-15.15	18.66	-5.63	-0.76	-1.54	-2.10
6 SIN	-3.56	-2.62	8.05	0.26	2.70	0.95	6 SIN	11.28	56.62	-8.18	0.87	17.72	3.77
7 COS	-1.19	39.27	1.87	0.39	19.68	-1.26	7 COS	4.50	24.84	-3.85	0.71	11.56	0.89
7 SIN	1.79	15.19	3.54	-0.25	3.06	-0.08	7 SIN	-5.37	-5.43	-5.95	-0.11	-11.45	1.59
8 COS	-6.54	-23.18	-15.14	-0.91	-7.27	1.01	8 COS	-8.18	9.16	-23.59	-0.30	-1.01	1.93
8 SIN	1.27	-66.44	4.05	0.06	-36.80	-2.18	8 SIN	12.05	-73.24	28.47	-0.30	-76.27	2.82
9 COS	-1.08	-63.66	5.72	0.89	-24.72	0.43	9 COS	1.51	-24.44	1.70	-0.22	12.75	-0.43
9 SIN	-8.70	4.13	6.87	-0.69	-0.10	2.56	9 SIN	-12.69	-31.24	7.93	0.04	-35.72	2.14
10 COS	0.71	-47.99	-24.38	0.13	22.01	4.43	10 COS	3.38	37.49	-14.77	0.14	14.17	0.52
10 SIN	-3.41	-49.43	8.65	0.15	-21.16	5.79	10 SIN	-3.85	-34.45	3.44	0.23	-43.36	-4.19
11 COS	-0.02	-1.87	7.20	0.83	-11.46	-1.97	11 COS	5.38	70.67	4.51	-0.27	1.93	-2.95
11 SIN	1.44	-25.14	21.40	0.65	9.68	1.37	11 SIN	2.73	-6.11	31.10	-0.90	21.81	-6.15
12 COS	2.13	41.01	-6.03	0.31	-5.53	-0.18	12 COS	0.75	98.58	-23.53	0.01	-24.94	6.00
12 SIN	3.26	3.60	2.32	0.22	31.58	-1.58	12 SIN	-1.30	-82.38	0.32	-0.37	-15.24	1.24

D72

## FFT COEFFICIENTS FOR DATA POINT 158

## FFT COEFFICIENTS FOR DATA POINT 159

HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL
DC	521.63	-12.13	-15.82	2.98	-31.96	-74.58	DC	544.15	-17.44	-16.15	3.41	-32.17	-83.99
0 SIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 COS	15.89	-2.88	-2.06	1.01	11.91	-1.86	1 COS	16.02	-7.11	-1.68	0.36	9.84	-3.60
1 SIN	-10.66	-3.46	-1.88	-0.61	9.18	-0.68	1 SIN	-6.69	-5.75	0.00	1.02	8.81	-0.42
2 COS	0.04	5.45	4.48	0.56	6.72	-1.50	2 COS	-3.65	4.70	5.87	0.25	11.05	1.79
2 SIN	-8.09	8.06	3.39	0.26	3.59	0.45	2 SIN	-10.11	1.56	0.77	0.31	2.78	-1.23
3 COS	-12.97	37.38	-0.48	-0.05	6.07	0.22	3 COS	-19.36	21.31	-0.93	0.08	4.71	4.75
3 SIN	-2.11	-14.06	0.87	-0.04	-3.48	3.22	3 SIN	0.39	-23.38	3.35	0.15	-4.50	-1.25
4 COS	-27.69	-96.07	4.48	-0.32	-3.45	-4.51	4 COS	-14.19	-24.65	12.30	-0.19	-13.04	-0.20
4 SIN	-2.55	-10.88	6.68	-0.22	-21.36	-0.97	4 SIN	20.30	79.63	-2.79	-0.55	-4.89	2.72
5 COS	-0.33	9.21	11.12	0.44	26.09	-6.08	5 COS	6.41	11.21	16.45	0.43	28.57	-3.69
5 SIN	-12.84	9.11	-49.94	-0.27	-19.87	0.91	5 SIN	5.93	-20.80	-43.41	0.07	-44.97	2.51
6 COS	-6.85	-7.06	4.76	-0.51	5.66	-0.35	6 COS	4.82	-17.35	-6.09	0.01	-4.35	-4.62
6 SIN	7.40	-20.31	-1.24	0.07	-1.24	2.99	6 SIN	6.84	49.24	-4.51	-0.35	17.40	1.05
7 COS	-0.68	-15.96	1.47	0.41	-4.46	2.81	7 COS	9.44	-20.78	-8.36	0.37	-13.62	1.19
7 SIN	0.59	-8.81	-2.55	-0.69	-6.70	0.04	7 SIN	-0.65	-30.65	-3.11	0.71	-4.31	3.92
8 COS	-1.61	12.88	6.57	-0.68	-10.30	0.47	8 COS	7.10	10.95	8.73	-0.80	-2.23	2.36
8 SIN	3.75	-65.82	3.87	-0.10	-27.75	3.16	8 SIN	1.14	11.90	-10.80	0.42	1.71	-3.51
9 COS	-2.37	-0.14	4.80	0.15	23.02	2.56	9 COS	4.49	25.53	11.40	-0.44	-31.85	1.85
9 SIN	2.47	11.87	12.74	0.50	-35.88	0.43	9 SIN	2.10	-0.76	-8.28	-0.13	-12.55	-3.32
10 COS	-2.77	-12.86	-12.81	-0.59	29.80	2.25	10 COS	4.69	38.28	-6.50	-0.80	-6.51	0.23
10 SIN	-4.00	28.67	10.33	-0.67	-12.04	3.45	10 SIN	-5.20	-15.66	2.80	-0.25	-31.05	-1.66
11 COS	2.42	18.19	5.07	-0.02	6.00	0.01	11 COS	3.53	27.12	26.41	-0.26	2.68	-2.14
11 SIN	0.08	14.64	-24.83	-0.32	-26.04	0.71	11 SIN	1.62	4.28	-7.36	0.05	0.39	0.00
12 COS	3.26	-57.56	10.07	0.66	1.87	3.38	12 COS	1.21	-53.43	-5.61	-0.23	-0.68	5.45
12 SIN	1.37	12.09	6.52	-0.05	4.98	0.30	12 SIN	-0.87	-30.46	9.18	-0.65	-55.46	2.82

D73

## FFT COEFFICIENTS FOR DATA POINT

160

## FFT COEFFICIENTS FOR DATA POINT

161

HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL
DC	501.19 0.00	-11.01 0.00	-16.69 0.00	3.05 0.00	-32.93 0.00	-70.23 0.00	DC	501.97 0.00	-20.79 0.00	-14.88 0.00	1.77 0.00	-29.45 0.00	-72.55 0.00
1 COS 1 SIN	15.60 -11.93	-1.49 -3.96	-2.69 -0.70	-0.05 0.56	10.20 6.47	-1.56 -1.80	1 COS 1 SIN	23.54 -12.37	-10.11 -9.60	1.73 -1.56	-0.14 -0.02	11.45 2.77	1.54 1.03
2 COS 2 SIN	-22.36 -10.62	11.23 7.74	5.51 0.68	-0.12 -0.16	8.18 2.15	0.45 2.80	2 COS 2 SIN	5.85 -1.32	-10.59 15.03	-0.60 -1.12	-0.36 -0.50	8.23 -4.16	-1.09 5.03
3 COS 3 SIN	-22.92 -3.12	30.28 -21.67	-3.45 1.15	-0.33 -0.11	2.54 -6.31	0.36 -1.77	3 COS 3 SIN	11.97 -1.09	-24.33 -1.38	-3.62 -1.62	-0.47 -0.54	-2.40 -4.77	0.17 -2.56
4 COS 4 SIN	4.91 37.74	-39.93 73.69	19.95 -9.56	0.11 0.12	-30.74 5.35	1.42 0.22	4 COS 4 SIN	27.67 30.01	216.21 -84.88	-15.10 -22.21	0.33 0.94	53.37 14.50	6.24 3.17
5 COS 5 SIN	5.08 3.94	-8.61 -28.52	14.76 -47.99	0.08 -1.33	8.06 -50.57	2.56 6.04	5 COS 5 SIN	9.76 11.62	-12.38 16.28	23.31 -44.15	-0.92 -0.18	24.17 -32.02	1.45 0.32
6 COS 6 SIN	-9.29 6.10	-18.22 19.56	-2.33 7.59	-0.32 -0.26	-2.93 16.00	4.57 0.12	6 COS 6 SIN	-0.57 -2.14	-24.92 -4.49	-8.41 3.20	-0.14 -0.03	14.89 6.57	0.30 3.72
7 COS 7 SIN	5.81 -4.52	15.01 -8.63	-4.17 2.26	-0.44 0.10	5.07 -4.05	-1.45 -4.08	7 COS 7 SIN	-4.19 -7.36	28.48 -21.56	-12.69 -3.94	-0.32 -0.14	0.89 -16.19	-1.65 2.01
8 COS 8 SIN	6.66 -0.27	-57.15 62.78	1.11 5.53	-0.24 -0.39	3.55 15.71	1.24 3.97	8 COS 8 SIN	-12.49 -6.29	81.98 17.90	-2.37 -38.34	0.32 0.08	48.75 42.29	1.41 3.87
9 COS 9 SIN	-4.03 3.09	-7.75 61.32	8.47 -4.40	-0.06 -0.87	-18.87 18.86	-2.02 -5.44	9 COS 9 SIN	-2.58 -7.38	-36.84 -11.26	-2.61 -18.09	-0.35 -0.09	-34.11 52.83	-2.85 0.80
10 COS 10 SIN	0.24 -0.14	15.07 70.07	-2.93 18.98	-0.73 -0.31	16.12 -10.34	-0.81 -5.63	10 COS 10 SIN	-0.97 -3.96	39.26 2.92	-18.97 -4.63	0.04 -0.20	26.45 20.54	0.38 5.18
11 COS 11 SIN	1.12 1.58	-13.31 19.12	-0.10 27.08	-0.27 -0.49	-31.68 45.17	4.55 -0.61	11 COS 11 SIN	5.24 -2.30	-44.82 47.64	3.73 -36.41	0.85 0.39	-11.98 -18.08	3.24 -2.34
12 COS 12 SIN	0.59 -3.06	9.70 -65.50	-16.86 2.04	0.61 0.19	-19.08 -44.71	0.44 0.48	12 COS 12 SIN	7.83 -1.24	201.77 -29.44	-10.24 -17.90	-0.02 0.93	16.64 34.73	-3.89 -0.58

**ORIGINAL PAGE IS  
OF POOR QUALITY**

FFT COEFFICIENTS FOR DATA POINT 162

HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL
DC	469.63	-14.85	-16.07	3.02	-33.13	-76.63	DC	494.71	-19.53	-16.63	0.86	-35.16	-81.48
1 COS	0.00	0.00	0.00	0.00	0.00	0.00	1 SIN	14.92	-9.95	-2.78	-0.38	9.55	-4.38
1 SIN	-14.06	-5.77	-2.67	0.54	9.68	-2.39	1 SIN	-10.56	-3.80	0.15	1.04	10.91	-0.68
2 COS	-7.81	12.36	8.16	-0.59	7.30	-1.41	2 COS	1.52	-4.43	4.71	-0.25	6.34	-1.29
2 SIN	-15.73	18.03	0.76	-0.79	1.46	5.45	2 SIN	-6.98	4.52	1.33	-0.11	7.45	1.22
3 COS	-1.38	9.04	-4.03	-0.44	-4.32	2.62	3 COS	-11.27	20.94	-0.74	-1.11	6.15	5.25
3 SIN	-7.98	-9.38	2.81	0.97	-2.04	-3.70	3 SIN	-0.48	-7.73	1.47	0.70	-1.81	-4.69
4 COS	-10.06	73.82	-6.06	0.24	32.70	-0.17	4 COS	23.85	18.20	-0.63	-0.65	5.92	-2.44
4 SIN	-39.53	-24.87	-2.41	0.23	-3.93	-2.55	4 SIN	10.05	-28.45	-13.01	0.04	37.67	-2.42
5 COS	11.47	-33.08	26.50	-1.00	0.03	-4.89	5 COS	7.09	-19.00	11.44	-0.22	7.26	-3.57
5 SIN	11.19	20.36	-53.59	0.61	-3.69	-0.83	5 SIN	-5.78	4.67	-40.22	1.24	-17.13	3.56
6 COS	-10.51	9.52	5.82	-0.94	11.25	2.84	6 COS	-0.84	-19.91	4.34	-0.08	-5.08	-0.44
6 SIN	-9.98	-2.81	9.03	-0.12	5.37	2.47	6 SIN	-7.45	-0.15	-7.80	-0.29	2.44	1.13
7 COS	4.09	16.93	-1.22	0.15	-5.27	1.56	7 COS	10.56	-2.13	3.12	0.33	-0.79	0.41
7 SIN	1.21	20.77	5.67	-0.08	6.22	-3.51	7 SIN	1.21	26.15	-3.35	0.12	7.53	-2.92
8 COS	-4.33	14.57	-3.10	0.21	31.90	-0.14	8 COS	-2.64	-50.13	-8.17	0.26	-31.28	0.20
8 SIN	-2.81	-9.68	-4.65	0.52	-4.01	1.67	8 SIN	-3.11	-42.98	-5.53	0.32	-6.79	1.42
9 COS	2.88	-27.52	6.53	0.61	-33.63	-0.49	9 COS	2.39	-81.18	-1.28	0.25	-13.42	0.33
9 SIN	-6.44	-7.64	-0.53	0.20	12.60	1.33	9 SIN	-1.83	0.56	4.33	0.64	11.17	-4.04
10 COS	-3.04	-38.29	-30.47	-0.45	59.40	0.50	10 COS	-6.55	-4.11	-1.13	1.06	28.34	-1.99
10 SIN	-6.12	-19.88	13.10	0.48	4.85	-0.96	10 SIN	3.53	151.53	25.70	0.27	14.71	-2.58
11 COS	0.53	-4.11	20.87	0.60	24.72	-0.04	11 COS	0.08	18.55	-30.96	-0.09	-21.28	-3.24
11 SIN	-1.10	-7.71	15.77	-0.59	34.39	2.53	11 SIN	-0.78	-80.62	12.28	-0.52	3.74	-3.28
12 COS	2.56	-21.70	4.93	0.33	6.63	3.75	12 COS	2.25	64.41	-6.01	-0.23	22.38	2.61
12 SIN	0.71	-3.46	-0.85	0.92	8.54	-2.60	12 SIN	-1.66	-33.45	-3.66	0.29	35.29	-1.23

D75

## FFT COEFFICIENTS FOR DATA POINT 164

## FFT COEFFICIENTS FOR DATA POINT 165

HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL
0C 0 SIN	459.00 -13.47	-15.70 -2.43	-17.04 0.18	0.68 0.00	-30.71 1.52	-73.24 1.90	0C 1 SIN	542.05 -12.29	-9.19 -6.82	-14.80 -0.68	1.81 0.39	-34.00 8.71	-72.45 6.45
1 COS 1 SIN	14.64 -13.47	-6.39 -2.43	-2.66 0.18	0.66 1.52	15.13 10.88	-4.38 1.90	1 COS 1 SIN	19.07 -12.29	2.77 -6.82	1.00 -0.68	0.04 0.39	8.71 6.45	-3.45 0.77
2 COS 2 SIN	2.94 -3.99	2.43 0.39	4.92 -2.03	-0.69 0.24	11.20 5.48	-1.93 1.52	2 COS 2 SIN	7.28 -8.28	0.00 -0.23	-0.99 0.56	-0.11 -0.81	4.47 2.97	-0.59 2.49
3 COS 3 SIN	-12.92 0.25	28.00 -0.94	-0.66 -0.76	0.91 0.33	13.28 -3.54	-1.86 -1.42	3 COS 3 SIN	-12.06 -2.53	34.65 -4.11	-2.31 -2.57	0.58 0.21	6.74 -8.00	2.94 -2.26
4 COS 4 SIN	-17.36 -7.00	-31.68 -3.94	-0.57 -1.33	-1.26 -0.57	27.75 -6.55	-3.09 2.47	4 COS 4 SIN	65.46 16.44	19.83 15.34	-5.79 -13.29	0.08 0.05	-29.32 -15.82	-7.05 0.58
5 COS 5 SIN	0.22 3.48	8.85 -4.37	11.11 -41.82	-0.03 -0.36	24.16 -21.48	-2.04 4.05	5 COS 5 SIN	6.11 1.54	-27.90 -27.41	12.63 -48.06	-1.37 -0.22	5.24 -45.13	4.15 -3.20
6 COS 6 SIN	0.33 -5.67	5.03 14.28	3.50 -10.00	0.01 0.51	0.28 -2.54	3.87 -1.20	6 COS 6 SIN	-5.61 -7.58	16.59 40.11	0.83 8.51	0.62 -0.51	11.74 23.78	1.94 1.85
7 COS 7 SIN	3.72 -0.55	28.67 -11.59	-2.09 -8.73	0.79 0.35	6.27 -10.09	2.52 -1.24	7 COS 7 SIN	9.28 -2.28	-6.89 13.34	-1.78 4.51	-0.35 0.72	-7.31 22.50	0.23 -0.18
8 COS 8 SIN	0.79 2.62	-57.71 -58.74	-8.92 5.85	0.28 0.18	-9.64 -36.17	2.19 3.85	8 COS 8 SIN	0.64 -3.55	-48.87 -51.62	-4.99 10.81	-0.62 0.87	-34.56 -26.17	3.92 -0.25
9 COS 9 SIN	-2.08 -6.31	-66.91 61.45	5.46 2.61	0.77 -0.15	-17.77 1.21	1.22 1.36	9 COS 9 SIN	-4.41 -1.50	-22.77 -6.51	-13.95 -5.11	-0.75 -0.11	3.57 32.38	0.01 1.99
10 COS 10 SIN	-0.61 -0.01	-13.84 -41.08	-12.91 9.83	0.14 0.26	21.49 -24.16	0.11 4.05	10 COS 10 SIN	-7.61 -2.00	-78.98 50.95	-19.52 18.82	0.03 0.15	-21.46 -10.96	-1.39 2.84
11 COS 11 SIN	-0.40 -0.98	-5.57 -23.56	-17.71 16.94	0.73 0.10	-43.19 -3.37	-1.33 -4.13	11 COS 11 SIN	-3.15 -0.51	59.29 -30.51	-5.69 0.35	-0.59 0.03	1.96 -7.32	0.77 -3.24
12 COS 12 SIN	4.18 0.10	30.01 -5.67	-0.52 2.23	0.29 -0.30	-4.13 34.19	-6.64 4.52	12 COS 12 SIN	-1.42 4.00	-98.86 130.69	26.09 -3.38	0.22 0.28	-35.66 -22.05	1.44 0.54

## FFT COEFFICIENTS FOR DATA POINT

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## FFT COEFFICIENTS FOR DATA POINT

167

HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL
0C	546.16 0.00	-8.73 0.00	-14.88 0.00	0.74 0.00	-29.23 0.00	-76.12 0.00	DC	529.36 0.00	-19.69 0.00	-15.70 0.00	0.91 0.00	-33.58 0.00	-71.82 0.00
1 COS 1 SIN	20.78 -9.88	0.68 -3.85	-0.88 0.34	-0.44 1.23	13.68 17.62	-0.63 -3.17	1 COS 1 SIN	19.09 -9.00	-9.05 -5.36	-1.36 -0.62	-0.42 1.66	8.53 11.33	-3.44 3.54
2 COS 2 SIN	8.12 -6.24	2.78 7.53	5.08 0.33	-0.56 -0.28	13.06 7.15	-3.78 -4.30	2 COS 2 SIN	9.39 -10.84	-5.79 4.74	4.61 -1.38	0.30 0.05	7.70 6.69	-2.04 2.56
3 COS 3 SIN	0.46 6.14	21.72 7.05	-1.72 -3.45	-0.29 0.12	12.48 -1.19	1.53 8.11	3 COS 3 SIN	1.31 -0.15	23.53 10.43	1.79 -7.63	0.11 -0.02	9.04 -4.59	-5.34 6.26
4 COS 4 SIN	37.56 29.72	47.79 -40.33	-5.26 -12.06	0.07 0.98	14.24 27.95	2.79 -1.46	4 COS 4 SIN	14.17 -8.54	-15.63 -15.56	-6.43 -1.06	-0.02 -0.26	2.29 10.12	0.91 -5.24
5 COS 5 SIN	-4.47 -7.49	-2.69 -7.71	16.95 -4.08	-0.43 -0.34	14.04 -21.04	-0.79 -2.15	5 COS 5 SIN	-0.77 5.24	-1.91 -0.60	13.20 -52.69	-0.04 0.13	15.44 -33.05	-3.32 0.84
6 COS 6 SIN	-6.09 -17.40	-4.30 29.49	-1.01 -5.38	-0.55 0.61	-4.14 7.49	-0.56 -3.94	6 COS 6 SIN	-18.01 -5.71	42.29 41.25	4.28 6.20	-0.22 -0.82	20.00 18.08	1.44 0.88
7 COS 7 SIN	8.84 2.36	26.77 23.16	0.68 -6.66	0.51 0.03	7.55 3.18	4.29 5.50	7 COS 7 SIN	2.00 -1.74	25.84 -4.07	-0.47 -1.65	-0.41 0.06	8.87 -10.06	2.23 0.89
8 COS 8 SIN	-3.95 -6.54	-38.68 -38.78	-5.85 6.56	0.08 -0.42	-26.40 -17.38	-7.01 -5.01	9 COS 8 SIN	2.65 -5.62	-44.60 34.59	6.38 12.51	-0.83 -0.24	-17.30 15.50	3.87 -5.28
9 COS 9 SIN	-4.54 -2.03	-17.95 -6.55	1.67 -3.76	0.23 -0.20	2.46 9.97	-2.27 0.67	9 COS 9 SIN	4.01 -4.96	-26.11 -0.30	2.80 -0.85	0.26 0.04	-4.65 -6.04	-1.75 2.33
10 COS 10 SIN	-6.97 1.42	-73.71 204.32	-2.00 24.05	0.41 -0.74	22.75 32.96	-1.57 -0.14	10 COS 10 SIN	0.69 -2.51	47.71 -30.00	-17.86 1.27	-0.01 0.34	42.64 -5.80	5.01 -0.77
11 COS 11 SIN	0.07 3.21	-0.59 -27.44	3.74 15.54	-0.02 -0.28	-26.70 8.35	-0.04 -1.59	11 COS 11 SIN	2.06 -2.08	-1.68 -39.24	10.40 9.64	0.14 0.96	-0.88 25.31	-1.55 -1.65
12 COS 12 SIN	1.69 -5.60	52.77 -117.47	-29.02 -1.61	-0.17 0.21	16.64 -18.09	-4.03 0.06	12 COS 12 SIN	2.66 1.03	-24.95 53.63	8.88 -7.52	0.40 -0.10	18.16 -2.29	8.07 -0.95

FFT COEFFICIENTS FOR DATA POINT						FFT COEFFICIENTS FOR DATA POINT						FFT COEFFICIENTS FOR DATA POINT	
HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL
DC	510.73	-10.05	-15.58	-0.23	-30.58	-69.91	DC	501.48	-17.29	-13.49	0.97	-34.99	-74.41
1 COS	16.52	1.33	-0.20	-0.33	13.53	-1.53	1 COS	12.46	-5.45	2.13	-0.82	9.49	-5.96
1 SIN	-11.12	-4.06	-1.13	0.97	7.88	3.93	1 SIN	-13.85	-3.43	0.20	1.51	9.20	-1.86
2 COS	4.77	2.39	-3.10	0.19	5.68	-3.97	2 COS	3.73	-2.43	2.09	0.23	3.20	-3.18
2 SIN	-9.68	4.69	-1.43	-0.05	5.27	-3.61	2 SIN	-3.83	2.85	-1.37	-0.47	1.78	0.17
3 COS	-3.02	40.92	-5.51	0.38	12.97	4.28	3 COS	-15.67	9.92	0.56	0.10	4.92	-2.07
3 SIN	-10.27	7.57	-7.04	0.15	-4.09	4.69	3 SIN	-3.27	1.25	-0.01	0.06	-5.08	-5.58
4 COS	-21.92	-41.50	-6.74	0.20	6.36	-0.60	4 COS	-12.02	4.27	2.31	-0.76	22.14	0.94
4 SIN	-35.18	-14.45	17.25	-0.59	8.09	-5.17	4 SIN	48.47	2.03	-11.01	0.29	-13.38	2.61
5 COS	10.32	9.17	12.06	-0.33	15.50	-1.74	5 COS	10.04	-20.76	12.39	1.35	14.11	-4.40
5 SIN	5.07	10.42	-45.65	0.48	-22.72	-2.26	5 SIN	0.09	-16.91	-50.15	-0.18	-35.11	-1.98
6 COS	-5.38	-12.37	3.91	-0.37	-7.26	0.88	6 COS	1.12	-21.89	-0.59	1.01	-5.74	1.68
6 SIN	8.59	13.62	-7.04	-0.16	-5.71	1.35	6 SIN	-25.98	27.30	6.40	0.65	22.10	0.25
7 COS	-2.76	13.65	-3.66	-0.03	8.48	-0.12	7 COS	-6.78	26.77	0.58	0.68	11.70	-7.66
7 SIN	3.54	11.18	-4.74	-0.24	-4.83	1.95	7 SIN	-1.22	8.93	0.06	-0.51	4.44	-2.29
8 COS	-1.74	20.75	-9.56	-0.40	13.70	2.07	8 COS	9.37	-110.45	-2.33	0.30	-46.45	-0.29
8 SIN	2.56	-48.09	-5.01	0.21	-21.65	-4.51	8 SIN	1.13	-46.73	18.22	-0.27	-23.55	-1.79
9 COS	5.94	-39.10	-1.45	0.56	-3.08	1.59	9 COS	3.75	-53.76	7.42	-0.28	-18.96	2.22
9 SIN	-2.78	6.89	2.89	-0.50	12.78	-0.34	9 SIN	-1.80	24.59	1.92	0.09	13.57	-1.05
10 COS	-0.93	82.76	-14.08	0.41	43.54	0.69	10 COS	-5.48	-113.84	-17.14	0.30	5.41	-2.11
10 SIN	1.84	14.59	-6.51	0.78	-5.69	-2.83	10 SIN	-3.29	166.12	35.06	0.73	37.99	-4.36
11 COS	0.39	-9.99	-31.55	0.33	-31.66	3.83	11 COS	-0.37	8.33	-14.86	-0.30	-23.88	-5.29
11 SIN	-0.92	-4.74	-2.46	-0.29	-35.82	2.33	11 SIN	1.38	-49.27	25.42	-0.40	6.05	0.29
12 COS	3.43	-10.25	6.36	-0.19	-19.88	1.32	12 COS	2.29	17.37	15.01	0.42	11.23	1.78
12 SIN	2.38	51.97	-3.77	-0.47	1.28	-1.80	12 SIN	0.73	66.63	-7.85	-0.19	25.71	-6.45

## FFT COEFFICIENTS FOR DATA POINT 170

## FFT COEFFICIENTS FOR DATA POINT 171

HARMONIC	ACC1	ACC2	ACC3	PLL1	ACCS	N2BL	HARMONIC	ACC1	ACC2	ACC3	FLL1	ACCS	N2BL
0C	458.70 0.00	-12.20 0.00	-17.01 0.00	0.84 0.00	-31.09 0.00	-72.13 0.00	DC	473.81 0.00	-20.46 0.00	-13.64 0.00	4.31 0.00	-31.66 0.00	-70.13 0.00
1 COS	17.51 -8.16	-0.30 -6.63	-1.42 -2.60	-0.23 1.55	11.12 5.27	-3.59 0.18	1 COS	16.20 1 SIN	-10.19 -2.59	2.02 -1.42	1.04 -0.18	12.29 8.61	-5.01 -1.63
2 COS	6.13 -10.78	-2.18 13.22	1.63 7.31	-0.74 -0.16	9.37 10.33	-0.60 5.55	2 COS	-0.38 2 SIN	-9.07 -11.21	-7.24 2.30	-0.47 -0.26	-0.57 0.02	3.58 0.02
3 COS	-5.12 -3.17	13.49 2.98	-1.92 -0.88	0.24 0.31	9.56 -2.11	-1.74 -3.41	3 COS	-16.16 3 SIN	-15.85 -1.68	-2.42 0.46	-4.79 -0.95	0.18 -4.48	3.58 -4.28
4 COS	9.60 -38.56	-50.29 -67.72	-18.99 6.25	0.83 0.03	30.35 2.25	-3.81 -1.79	4 COS	-30.42 4 SIN	-12.49 -22.30	-93.11 21.92	-0.42 0.10	-0.01 -0.10	-15.30 -31.13
5 COS	10.56 6.29	1.27 -18.42	2.64 -47.91	-0.46 0.92	18.94 -26.80	-1.49 3.16	5 COS	4.20 5 SIN	6.80 -12.41	5.07 -45.33	0.21 0.45	24.93 -41.82	-2.48 0.28
6 COS	-12.12 -2.81	24.54 60.49	4.62 -4.01	0.04 -0.15	12.11 14.39	-0.42 1.28	6 COS	-8.34 6 SIN	-11.35 6.26	-6.61 -3.87	-4.57 -0.59	-0.14 -0.59	-14.94 -4.35
7 COS	-1.18 -3.39	32.58 -9.80	-1.88 -10.85	-0.45 0.72	12.82 -21.59	-1.32 -1.07	7 COS	2.93 7 SIN	9.30 -3.95	-14.79 4.72	-2.10 -0.21	-0.01 -0.21	-8.56 2.77
8 COS	-5.32 4.92	0.11 54.19	-9.78 10.08	0.30 -0.39	31.06 17.45	-0.13 1.49	8 COS	-6.72 8 SIN	-2.24 -27.16	-37.20 -3.40	8.82 0.79	0.79 0.06	-39.75 -14.99
9 COS	11.84 1.32	10.33 -29.29	1.17 5.25	-0.48 0.11	32.82 -21.53	0.63 -0.23	9 COS	-2.27 9 SIN	-3.02 -1.34	-14.58 -3.46	7.69 0.51	1.19 -33.38	-14.00 1.50
10 COS	2.29 -0.84	53.61 -17.89	-25.00 -7.11	0.34 -0.21	70.32 -9.54	3.90 -2.29	10 COS	1.39 10 SIN	2.99 7.32	41.41 -0.43	-17.44 -0.40	0.40 -0.40	39.29 -11.72
11 COS	4.83 -2.40	78.61 24.94	-7.71 -45.82	-0.24 0.33	10.96 -28.81	0.27 0.54	11 COS	1.31 11 SIN	0.88 -17.52	29.45 -6.75	0.25 -0.79	6.60 -11.50	-4.24 0.56
12 COS	1.89 -0.72	40.42 -0.04	-0.68 -4.03	0.11 -0.16	-1.49 -9.71	2.45 -0.33	12 COS	1.89 12 SIN	2.41 -50.66	-4.51 15.85	-0.26 0.13	15.79 45.26	-3.10 -0.56

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## FFT COEFFICIENTS FOR DATA POINT

172

HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL
0 IC	481.03 0.00	-18.15 0.00	-15.73 0.00	3.49 0.00	-32.81 0.00	-79.34 0.00	DC	478.16 0.00	-16.85 0.00	-14.54 0.00	3.12 0.00	-33.60 0.00	-72.86 0.00
1 COS	21.39 1 SIN	-7.84 -3.84	-1.03 -0.31	1.11 0.41	11.89 11.40	0.87 -0.64	1 COS	16.23 1 SIN	-12.24 -3.93	-6.29 -0.95	0.36 0.11	13.82 10.92	-4.79 -3.03
2 COS	0.09 2 SIN	-3.36 -8.92	0.72 7.17	0.13 1.57	8.87 0.64	-1.52 2.03	2 COS	-1.16 2 SIN	-11.52 10.88	-4.91 1.33	-1.45 -0.72	0.24 1.29	4.62 1.32
3 COS	-1.80 3 SIN	16.17 -3.71	-7.04 -21.72	-3.62 0.54	0.65 -8.39	7.75 -2.75	3 COS	-0.12 3 SIN	-16.51 -14.84	19.15 -1.93	-8.40 0.18	0.40 -8.21	1.98 1.18
4 COS	-49.15 4 SIN	24.84 54.50	-1.13 8.40	-0.58 0.55	9.72 6.25	-1.19 3.01	4 COS	-47.76 4 SIN	-23.70 23.36	0.87 8.67	1.53 -0.33	0.09 0.82	17.80 0.36
5 COS	8.87 5 SIN	12.66 6.03	14.30 -29.08	-0.18 -43.19	22.12 0.89	-1.69 -31.57	5 COS	7.37 5 SIN	4.44 -15.46	9.50 -53.63	14.80 -0.19	0.11 14.41	14.41 -22.39
6 COS	7.76 6 SIN	0.33 3.23	8.54 44.77	0.24 -5.80	2.86 0.18	0.33 4.46	6 COS	-4.03 6 SIN	8.07 7.18	2.54 0.29	8.46 -0.87	0.20 -1.15	9.76 -1.15
7 COS	-10.68 7 SIN	20.45 4.34	-2.35 -19.63	-0.38 -3.27	8.71 0.01	-3.24 -4.71	7 COS	-6.79 7 SIN	11.75 -4.33	23.32 0.29	-0.09 0.23	-0.37 0.23	12.34 -6.83
8 COS	-1.40 8 SIN	85.84 -4.55	5.70 -22.24	-0.70 -17.59	37.78 -15.06	-1.75 3.90	8 COS	-9.59 8 SIN	-0.71 -6.06	77.91 -12.53	5.55 0.23	0.31 -10.53	37.83 -4.21
9 COS	2.09 9 SIN	15.60 -15.70	5.10 4.71	0.63 -0.37	-5.69 -22.49	-4.73 -1.18	9 COS	2.70 9 SIN	4.25 -0.15	8.04 4.51	-0.41 0.14	1.50 -15.90	1.50 -15.90
10 COS	-4.05 10 SIN	22.35 -0.41	-14.24 36.40	-0.25 -0.22	58.70 -20.67	5.71 -0.86	10 COS	-4.76 10 SIN	-1.95 -30.63	-28.45 14.19	-19.22 -0.43	0.12 -14.30	61.75 1.56
11 COS	0.37 11 SIN	-3.06 -0.26	-20.97 24.59	1.30 -0.40	-13.63 -42.62	0.55 -0.35	11 COS	1.08 11 SIN	1.84 1.84	-37.47 -17.00	4.74 -26.04	0.30 0.15	18.74 -48.29
12 COS	1.29 12 SIN	-25.81 -0.27	5.21 35.56	-0.84 -4.42	-17.38 -21.35	0.68 -4.70	12 COS	3.16 12 SIN	1.22 1.40	10.31 -0.89	4.34 0.04	-0.66 -14.66	1.76 -1.48

## FFT COEFFICIENTS FOR DATA POINT

174

## FFT COEFFICIENTS FOR DATA POINT

175

HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL
RC	472.22	-15.94	-17.48	0.77	-30.91	-71.13	DC	529.73	-15.51	-13.07	-0.52	-30.92	-67.64
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 COS	18.50	-3.85	-3.59	0.34	11.10	-1.51	1 COS	17.71	-6.47	1.73	-0.10	16.37	-4.80
1 SIN	-13.60	-5.65	-1.98	0.78	5.93	1.36	1 SIN	-10.87	-6.13	-2.68	1.63	5.68	-3.39
2 COS	7.02	2.04	4.15	-1.04	11.93	-4.52	2 COS	4.91	-3.81	0.93	-0.44	5.18	0.59
2 SIN	-11.76	11.07	4.62	0.06	9.09	0.57	2 SIN	-4.58	2.82	4.82	-0.63	7.01	1.04
3 COS	-5.23	18.12	-1.61	0.90	10.15	0.49	3 COS	-16.64	24.32	-1.09	1.01	16.47	-5.79
3 SIN	-3.27	8.32	0.15	-0.30	-2.78	0.34	3 SIN	-4.82	-3.00	-2.48	-0.26	-13.95	3.42
4 COS	35.59	-20.26	-8.71	0.60	21.02	-2.17	4 COS	-1.04	24.68	11.50	-0.08	-1.60	3.50
4 SIN	30.70	-32.29	-6.31	0.88	-21.24	1.82	4 SIN	52.06	67.08	-9.02	0.12	3.93	2.02
5 COS	1.71	-28.86	6.66	-0.22	8.29	0.16	5 COS	3.01	-19.52	14.08	0.46	2.34	-2.27
5 SIN	-2.71	-13.87	-47.73	-1.05	-23.48	3.07	5 SIN	-8.62	-43.30	-43.34	-1.46	-54.09	-1.30
6 COS	-9.73	34.86	9.91	-0.30	19.73	-1.10	6 COS	-0.72	33.60	-4.90	0.33	9.05	-2.88
6 SIN	-17.86	24.60	-4.20	-0.55	9.77	1.53	6 SIN	-17.00	39.90	4.76	0.33	18.33	2.16
7 COS	1.89	-12.81	0.95	-0.59	-1.94	2.85	7 COS	11.40	-6.68	-5.97	-0.45	-24.97	-4.69
7 SIN	1.59	-7.38	-4.62	-0.47	-1.15	1.93	7 SIN	0.07	-6.35	5.52	0.76	4.96	0.08
8 COS	5.46	21.30	14.75	-0.26	12.64	4.43	8 COS	10.24	-35.54	-12.44	0.39	-0.49	0.80
8 SIN	-7.59	22.19	-10.71	-0.01	18.10	-6.57	8 SIN	-15.39	-20.52	4.06	0.19	-34.40	1.89
9 COS	8.05	25.10	2.13	-0.32	6.80	-2.00	9 COS	-1.94	28.04	-0.63	0.26	1.41	3.44
9 SIN	0.56	-54.87	0.36	-0.50	-18.30	0.88	9 SIN	-2.54	41.65	-14.67	0.09	34.84	-2.67
10 COS	-4.10	140.83	3.05	0.24	67.14	-1.14	10 COS	-0.75	-156.79	-18.00	0.48	-25.46	4.26
10 SIN	1.63	118.59	5.67	-0.43	8.86	-1.23	10 SIN	-9.98	145.88	20.52	0.05	21.91	-0.51
11 COS	0.83	-14.55	-12.89	0.54	-5.04	-3.66	11 COS	-1.43	-9.64	-29.86	-0.69	-11.16	4.30
11 SIN	-1.80	-15.82	-32.22	-0.26	-4.59	-0.61	11 SIN	-0.06	13.84	-14.15	0.35	18.89	1.00
12 COS	-3.34	-54.47	-5.19	-0.10	-24.23	2.47	12 COS	6.74	19.07	13.00	-0.94	-13.14	2.45
12 SIN	1.09	16.58	5.87	-0.22	-3.82	1.17	12 SIN	0.27	108.58	-21.96	0.11	8.42	-2.77

## FFT COEFFICIENTS FOR DATA POINT 176

## FFT COEFFICIENTS FOR DATA POINT 177

HARMONIC	DC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL
1 COS	499.28	-14.90	-15.53	0.12	-34.14	-68.16	0.00	1 COS	510.45	-20.22	-14.62	-0.28	-33.87	-79.75
1 SIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1 SIN	0.00	0.00	0.00	0.00	0.00	0.00
2 COS	15.70	-5.11	-0.81	-0.34	8.32	-3.73	-1.16	2 COS	18.53	-12.28	-0.33	-0.28	9.43	-5.40
2 SIN	-15.85	-4.23	-0.02	1.03	7.67	-5.29	-10.37	2 SIN	-10.37	-5.29	-0.13	1.18	4.40	4.87
3 COS	8.12	-3.05	-1.77	0.06	6.09	-5.04	0.46	3 COS	3.19	-4.03	9.41	-0.31	8.76	-2.36
3 SIN	-8.16	-0.83	-2.08	-0.06	5.15	0.46	-5.89	3 SIN	-5.89	6.71	2.30	-0.35	10.37	-2.64
4 COS	-6.73	24.59	-3.85	0.27	8.90	5.30	-5.49	4 COS	-9.01	3.89	3.04	0.08	2.64	1.89
4 SIN	-6.47	8.63	-4.11	0.33	-5.49	5.59	-13.72	4 SIN	13.72	-11.54	0.01	-0.03	-5.88	-0.74
5 COS	-21.13	-43.01	2.40	-0.12	23.30	-0.07	-3.46	5 COS	50.92	128.66	-8.79	0.20	-7.75	4.61
5 SIN	33.34	-7.65	1.75	-0.43	-19.86	3.46	-2.86	5 SIN	3.05	-16.06	-22.94	2.02	24.68	-3.22
6 COS	13.68	-3.04	4.20	0.99	9.37	0.62	-0.46	6 COS	0.42	-27.65	24.99	-1.26	9.49	-0.92
6 SIN	2.55	-7.75	-49.59	-0.46	-22.96	-2.86	-3.92	6 SIN	-2.82	-41.42	-1.35	-32.14	-1.42	-1.42
7 COS	-14.74	-6.07	8.32	-0.43	-1.51	2.44	0.16	7 COS	-2.10	1.31	-3.01	0.20	4.79	2.68
7 SIN	-6.27	4.58	-1.07	-0.18	0.61	0.16	-15.22	7 SIN	36.58	3.77	0.36	12.57	-2.27	-2.27
8 COS	3.50	18.31	5.66	-0.15	12.19	3.08	3.26	8 COS	5.43	21.43	-1.10	-0.30	5.06	-2.14
8 SIN	-6.60	4.41	-0.08	-0.32	-0.98	-4.15	-10.98	8 SIN	-4.15	10.18	-2.55	0.64	3.06	-2.82
9 COS	5.12	-25.56	8.18	-0.69	-7.85	-2.65	-1.86	9 COS	-10.98	-8.52	6.66	0.42	-60.98	2.42
9 SIN	5.74	-56.09	15.17	0.04	-27.69	-1.86	-4.97	9 SIN	-9.60	31.86	-10.84	-0.61	21.36	-0.26
10 COS	7.79	-5.22	8.29	0.56	1.19	3.09	-1.84	10 COS	-4.97	-16.80	-7.94	-0.65	-8.40	1.50
10 SIN	-1.15	-6.60	2.45	-0.57	-11.76	-1.84	-1.71	10 SIN	-8.05	-116.29	-25.94	0.06	13.97	-0.25
11 COS	3.04	55.71	0.95	-0.18	-1.44	1.85	-1.08	11 COS	-6.15	14.17	12.29	0.13	10.72	2.84
11 SIN	-1.04	-31.32	-34.36	0.44	-42.45	-1.08	-3.13	11 SIN	-3.13	0.33	-27.93	-0.75	18.86	-0.02
12 COS	1.46	-13.08	6.89	-0.36	-22.85	-5.05	-1.31	12 COS	-0.38	305.91	-47.07	0.48	-12.83	1.03
12 SIN	5.40	37.95	8.36	-0.16	9.84	-1.31	-3.70	12 SIN	-3.70	-69.41	-21.97	1.04	-57.77	2.23

D8N

## FFT COEFFICIENTS FOR DATA POINT 178

HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL
0C	573.56 0.00	-18.45 0.00	-12.68 0.00	0.14 0.00	-34.32 0.00	-65.72 0.00	0C	537.99 0.00	-14.61 0.00	-12.69 0.00	-0.02 0.00	-28.98 0.00	-62.90 0.00
1 COS	17.57 1 SIN	-9.18 -6.24	2.32 -2.80	-0.09 1.28	10.04 8.27	-4.53 -2.18	1 COS	16.04 1 SIN	-4.57 -14.38	2.77 -4.16	0.52 0.96	15.15 1.09	-9.62 4.41
2 COS	9.17 2 SIN	-11.04 -9.34	0.91 12.02	0.13 4.97	2.44 -0.33	-5.75 8.43	2 COS	1.96 2 SIN	-6.68 -10.93	0.72 5.66	0.35 1.60	9.98 -0.02	2.77 6.39
3 COS	0.99 3 SIN	31.56 -8.09	1.82 22.66	0.50 -6.01	11.16 0.24	3.87 -0.71	3 COS	-4.02 3 SIN	2.62 -3.28	1.16 30.98	-0.49 0.68	9.61 0.44	-7.94 8.77
4 COS	7.71 4 SIN	-71.49 -45.36	-15.83 71.22	0.16 13.23	9.57 -22.79	-1.96 -0.57	4 COS	-24.06 4 SIN	-91.86 -56.23	-6.38 -139.67	1.67 22.85	25.20 -0.35	-5.24 -6.35
5 COS	21.46 5 SIN	5.01 -1.60	10.58 -50.38	-0.77 0.51	18.13 -35.47	-4.79 1.16	5 COS	2.34 5 SIN	0.08 -6.44	13.84 -38.92	-0.33 1.67	29.33 -23.83	2.69 -0.79
6 COS	-15.85 6 SIN	10.60 4.09	-0.38 9.20	-0.21 10.39	6.98 -0.72	5.21 0.44	6 COS	-27.70 6 SIN	-4.92 -3.29	0.51 56.56	-0.10 -7.11	-6.28 0.34	-0.22 17.33
7 COS	-2.62 7 SIN	14.42 -8.17	-1.62 -1.82	0.20 0.36	13.16 -15.01	3.52 0.52	7 COS	5.77 7 SIN	-17.37 -14.65	-1.09 17.12	0.37 -3.88	0.08 0.14	0.85 10.31
8 COS	-9.42 8 SIN	79.37 51.67	-1.92 6.22	0.29 -0.22	47.48 3.01	0.77 -5.04	8 COS	-8.29 8 SIN	-48.86 9.70	-22.66 4.87	-0.31 26.20	-2.04 -0.28	4.74 -44.81
9 COS	4.34 9 SIN	-35.19 -6.36	2.74 35.78	-0.19 -0.59	11.29 14.30	0.21 3.52	9 COS	4.33 9 SIN	40.91 -51.41	-5.12 11.69	0.22 0.86	31.42 -32.72	-1.55 2.26
10 COS	-7.74 10 SIN	46.00 -2.73	-4.22 13.42	-0.27 0.09	27.83 -6.27	1.26 1.10	10 COS	2.46 10 SIN	58.38 -4.97	-0.42 -7.47	0.44 -4.37	17.42 -0.39	8.95 -28.25
11 COS	-1.23 11 SIN	-0.72 -14.40	16.79 22.19	0.16 0.45	-14.42 17.08	-0.32 0.74	11 COS	2.17 11 SIN	62.52 -0.90	36.32 -23.51	0.03 16.12	20.87 0.19	-0.64 3.92
12 COS	-2.81 12 SIN	-64.22 -1.29	-2.72 -72.18	-0.15 5.07	-7.26 0.14	-0.62 -26.83	12 COS	-0.96 12 SIN	-25.36 5.60	-0.77 -7.45	-0.03 0.61	-6.63 -47.35	-4.52 -1.79

D85

## FFT COEFFICIENTS FOR DATA POINT

180

## FFT COEFFICIENTS FOR DATA POINT

181

HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	FLL1	ACCS	N2BL
DC	610.93 0.00	-15.16 0.00	-13.95 0.00	0.91 0.00	-33.59 0.00	-70.73 0.00	DC	618.02 0.00	-20.92 0.00	-18.36 0.00	-0.77 0.00	-34.41 0.00	-56.85 0.00
1 COS 1 SIN	20.13 -11.26	-4.39 -3.33	1.06 0.44	-0.49 1.50	11.68 7.07	-3.65 1.66	1 COS 1 SIN	15.71 -12.14	-12.83 -5.30	-4.15 -0.69	-0.52 0.81	8.36 2.74	-3.31 -1.50
2 COS 2 SIN	7.81 -7.39	-2.20 5.27	2.91 -1.20	0.06 -0.70	8.12 5.97	-3.12 -2.92	2 COS 2 SIN	2.64 -11.43	-6.12 7.62	3.57 4.56	0.54 0.45	8.85 9.34	-2.58 1.21
3 COS 3 SIN	-2.24 -1.05	26.54 6.86	0.67 -4.92	-0.04 0.64	13.18 -5.32	-4.39 3.01	3 COS 3 SIN	-2.05 -4.34	14.70 14.68	0.37 -2.73	-0.41 0.24	7.38 0.84	-6.66 -3.15
4 COS 4 SIN	-3.39 -22.17	-59.18 -46.70	-9.66 4.51	0.31 -0.83	23.19 -18.37	-2.81 1.58	4 COS 4 SIN	-11.06 -47.74	-106.53 -64.57	-14.87 -21.14	1.22 -1.16	23.70 -14.19	-12.08 -11.94
5 COS 5 SIN	9.62 5.25	-6.90 -16.65	-7.53 -53.65	0.40 0.09	15.64 -29.36	-2.49 -0.10	5 COS 5 SIN	2.84 5 SIN	16.04 8.63	2.71 -14.96	0.27 -45.07	21.69 0.70	-1.91 -2.96
6 COS 6 SIN	-10.49 2.57	5.73 15.40	2.35 5.98	0.52 0.07	11.75 15.99	-1.90 1.54	6 COS 6 SIN	-21.53 -1.47	33.59 43.25	2.10 -7.01	-0.08 0.58	7.41 12.74	0.81 0.44
7 COS 7 SIN	4.75 -7.13	46.59 -16.76	0.28 -4.22	-0.06 0.78	20.47 -11.33	-0.66 -1.90	7 COS 7 SIN	0.20 -5.74	-0.51 -56.52	-9.05 -4.16	0.40 0.50	-2.42 -26.86	-0.06 -1.35
8 COS 8 SIN	-1.06 2.30	37.84 6.61	4.03 4.69	-0.52 0.45	22.62 -5.65	-0.94 -3.67	8 COS 8 SIN	-3.45 0.42	-47.48 47.73	7.53 22.45	-0.08 -0.53	-15.42 -9.18	-2.53 -2.99
9 COS 9 SIN	5.09 -6.38	-61.83 -7.43	7.37 9.42	-0.43 0.14	1.53 -15.37	2.01 0.37	9 COS 9 SIN	13.01 -6.29	-38.50 -121.12	-4.75 5.57	-0.18 -0.85	4.70 -42.76	-4.39 -6.34
10 COS 10 SIN	-11.94 -1.81	27.96 87.17	-8.53 14.32	-0.10 0.49	68.71 -1.10	0.49 1.26	10 COS 10 SIN	0.16 -8.44	-125.37 -79.32	-37.24 12.57	-0.36 0.08	8.44 -38.29	1.41 0.95
11 COS 11 SIN	1.92 -0.59	30.51 -56.23	19.34 -2.36	0.29 0.03	15.61 -8.31	1.52 -0.96	11 COS 11 SIN	-0.22 -1.64	50.59 8.64	-27.18 -3.19	-0.14 -0.25	-42.85 -35.08	0.15 3.76
12 COS 12 SIN	-1.00 1.82	-6.81 -88.47	-7.50 10.44	0.04 0.01	-11.62 -27.16	-4.68 1.05	12 COS 12 SIN	-1.08 -2.63	126.93 -23.11	-19.53 -18.51	-0.21 -0.79	2.79 -6.87	3.84 3.33

## FFT COEFFICIENTS FOR DATA POINT 1B2

## FFT COEFFICIENTS FOR DATA POINT 1B3

HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL
0C	614.62	-17.39	-13.59	-0.52	-35.91	-81.49	0C	600.21	-11.98	-11.66	3.76	-29.27	-65.86
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 COS	17.15	-5.93	0.41	-0.46	9.79	1.34	1 COS	12.18	-1.71	2.66	0.47	19.53	-4.12
1 SIN	-13.36	-7.65	-2.46	1.23	7.71	-6.12	1 SIN	-11.08	-3.85	-1.60	0.22	12.53	1.84
2 COS	6.53	-9.70	0.55	-0.10	-0.13	-2.40	2 COS	-5.22	6.59	1.27	0.34	10.52	-3.85
2 SIN	-10.40	8.74	5.12	0.56	7.26	1.97	2 SIN	-9.36	7.79	2.33	-0.28	2.69	0.26
3 COS	-0.92	21.89	-0.65	-0.08	6.34	6.42	3 COS	-16.06	43.56	-1.78	-0.43	15.27	0.91
3 SIN	-0.38	9.24	-4.27	0.21	-3.71	0.00	3 SIN	-6.15	-8.57	-1.42	0.40	0.23	3.96
4 COS	7.89	-48.31	1.01	0.35	-28.59	-2.85	4 COS	21.90	-16.10	-15.60	-0.12	3.59	0.81
4 SIN	-20.86	48.00	16.59	-0.66	-10.57	5.10	4 SIN	-70.48	-70.54	9.15	-0.75	0.51	3.09
5 COS	2.87	23.75	20.78	-1.31	26.36	-0.82	5 COS	11.18	-30.05	26.41	0.36	-7.01	-0.80
5 SIN	6.92	-7.01	-44.70	-0.37	-43.16	-0.43	5 SIN	-0.49	25.76	-37.19	0.32	-26.99	2.88
6 COS	-14.72	-21.84	-8.35	0.21	-19.75	5.83	6 COS	-5.14	-32.25	-0.16	-0.56	-13.00	-6.43
6 SIN	-2.88	-11.04	-1.44	0.78	-7.98	1.34	6 SIN	-10.20	-61.96	-4.92	0.42	-30.81	0.06
7 COS	2.93	4.59	-4.20	-0.62	-2.74	0.31	7 COS	7.44	9.68	-1.78	-0.12	11.76	1.66
7 SIN	-0.75	-2.73	-0.22	0.09	-5.37	0.58	7 SIN	4.54	-9.16	-6.34	0.16	-11.03	2.60
8 COS	9.26	-30.85	-0.50	0.05	-17.64	-1.53	8 COS	7.62	54.06	9.83	-0.62	26.44	-3.74
8 SIN	1.12	3.03	5.10	-0.33	15.36	0.58	8 SIN	-1.32	41.55	-4.90	-0.34	13.53	3.79
9 COS	-3.98	19.55	-3.97	-0.16	-6.22	2.97	9 COS	8.03	7.42	-1.10	-0.26	-6.65	2.39
9 SIN	1.10	-9.64	-6.26	0.41	-1.64	2.94	9 SIN	-0.55	5.87	3.22	-0.88	16.82	-0.24
10 COS	5.19	131.78	-17.98	1.69	32.60	0.21	10 COS	1.78	24.61	-9.08	0.09	14.69	4.10
10 SIN	0.39	-88.51	-21.48	-1.01	-22.11	2.67	10 SIN	-3.69	-8.73	4.01	0.10	-27.56	-5.29
11 COS	3.64	-14.77	9.58	-0.26	-3.52	-6.93	11 COS	0.99	-11.25	-2.93	-0.07	-9.02	0.70
11 SIN	-1.92	18.60	-22.47	-0.06	-3.43	-0.64	11 SIN	-2.32	-4.06	30.76	-0.63	32.17	-0.11
12 COS	2.45	19.32	-1.55	-0.41	-3.93	1.04	12 COS	-0.60	80.87	-18.46	0.28	18.06	1.98
12 SIN	-0.54	102.45	-7.80	0.43	35.06	0.08	12 SIN	-4.81	-19.83	-18.60	-0.85	24.46	2.43

## FFT COEFFICIENTS FOR DATA POINT

184

## FFT COEFFICIENTS FOR DATA POINT

185

HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL
0C	645.23	-18.41	-16.44	3.30	-34.26	-69.38	0C	622.95	-15.84	-15.46	3.43	-33.59	-76.10
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 COS	18.18	-10.57	-3.01	0.90	13.08	-3.98	1 COS	18.67	-8.85	-0.38	0.72	12.34	-5.22
1 SIN	-9.15	-2.67	-0.05	-0.63	9.98	3.30	1 SIN	-11.83	-5.56	-3.31	0.58	11.85	4.50
2 COS	-1.17	5.39	2.67	-0.34	10.20	-0.41	2 COS	5.00	-4.78	-0.34	0.67	5.53	0.05
2 SIN	-11.32	1.14	-1.59	0.79	0.82	-4.49	2 SIN	-12.44	14.58	2.71	0.37	4.24	-1.75
3 COS	-6.65	31.30	-1.28	-0.20	12.84	-6.44	3 COS	8.94	33.85	-7.24	-0.29	9.88	4.76
3 SIN	0.02	-15.42	-2.57	0.82	-7.32	-0.37	3 SIN	-5.19	-8.83	-4.31	-0.02	-9.40	3.49
4 COS	-52.37	-113.72	-4.21	-1.15	-11.38	-2.90	4 COS	-2.63	37.82	-13.06	0.76	6.13	4.88
4 SIN	-73.23	-7.36	26.04	-0.69	-24.63	-3.82	4 SIN	-43.67	-32.81	13.26	-0.07	-0.66	0.76
5 COS	5.22	-12.93	14.48	-0.16	12.74	0.16	5 COS	10.94	-27.54	18.15	-0.44	4.34	-0.31
5 SIN	-8.61	11.61	-44.01	-0.54	-23.36	-0.38	5 SIN	2.44	-21.68	-40.82	1.11	-27.85	-2.64
6 COS	-7.54	-18.45	4.18	-0.11	-4.50	2.56	6 COS	-16.31	37.69	4.37	0.23	7.53	-0.50
6 SIN	0.71	-32.28	-0.81	-0.13	-15.66	4.00	6 SIN	-19.56	-19.12	-7.50	-0.13	-20.76	-3.92
7 COS	3.96	17.13	1.20	0.15	6.61	-3.04	7 COS	-8.11	18.00	-1.78	0.26	8.92	3.53
7 SIN	-11.30	-8.62	-5.00	-0.55	-10.68	5.27	7 SIN	1.58	7.04	-6.20	0.25	-2.24	0.26
8 COS	-3.01	-23.26	5.98	-0.19	-16.87	6.83	8 COS	3.23	25.59	4.69	0.24	29.82	-0.91
8 SIN	-4.86	-25.97	6.55	0.07	-16.65	2.15	8 SIN	-10.75	-6.45	-7.29	0.48	-14.20	0.2B
9 COS	-11.32	-39.17	0.90	0.56	10.59	-4.74	9 COS	3.87	-6.83	-3.33	-0.43	2.77	2.94
9 SIN	-7.68	21.93	8.42	0.21	-29.66	0.32	9 SIN	-0.67	14.39	0.44	-0.71	4.02	3.23
10 COS	-1.24	-12.62	-21.65	-0.07	32.17	-3.36	10 COS	-3.36	8.23	-13.27	0.49	36.82	8.27
10 SIN	-4.10	-58.63	-5.35	-0.08	-2.21	1.43	10 SIN	-2.57	8.04	2.02	-0.59	-34.65	1.62
11 COS	0.77	-16.35	-16.40	-0.28	-0.15	1.93	11 COS	-0.64	-29.95	-29.19	-0.09	-29.25	-0.65
11 SIN	-4.35	-5.75	-16.04	0.26	-37.88	9.55	11 SIN	-2.31	4.94	-0.58	-0.02	-32.18	-1.39
12 COS	4.78	-17.51	1.12	0.25	-31.51	-2.11	12 COS	-1.59	-39.10	4.50	0.62	24.56	2.20
12 SIN	3.75	50.16	1.70	-0.28	50.78	-0.49	12 SIN	-3.06	-41.28	11.55	0.37	24.49	-0.55

## FFT COEFFICIENTS FOR DATA POINT 186

## FFT COEFFICIENTS FOR DATA POINT 187

HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL
DC	621.09 0.00	-15.92 0.00	-16.41 0.00	0.27 0.00	-37.00 0.00	-69.33 0.00	DC	658.52 0.00	-12.55 0.00	-14.32 0.00	1.61 0.00	-30.98 0.00	-73.16 0.00
1 COS 1 SIN	17.18 -10.91	-8.57 -1.80	-2.71 0.21	-0.38 0.83	8.95 9.52	-2.35 6.03	1 COS 1 SIN	17.79 -13.23	-2.81 -4.44	0.68 -0.22	-0.74 -0.22	12.19 6.58	-2.75 -1.38
2 COS 2 SIN	5.38 -9.96	-5.95 5.72	2.01 -0.44	-0.49 -0.03	8.70 7.06	-1.12 3.37	2 COS 2 SIN	8.51 -4.29	-4.51 0.41	-1.14 -0.82	-0.53 -0.61	8.96 3.46	-5.00 3.83
3 COS 3 SIN	-3.41 -3.83	24.88 16.39	-1.17 -6.62	-0.37 0.16	13.86 -3.37	5.93 8.05	3 COS 3 SIN	-2.93 -1.72	8.96 7.61	-0.63 -2.82	1.41 0.16	12.77 -4.97	-1.25 5.73
4 COS 4 SIN	-7.06 -3.65	-34.59 -43.22	-6.71 3.23	1.03 0.34	26.20 11.67	-1.49 4.02	4 COS 4 SIN	-19.95 12.02	-59.45 -36.14	-11.13 6.41	-0.44 -0.10	43.17 -26.73	-1.10 4.09
5 COS 5 SIN	2.34 -1.57	-12.81 -25.62	3.97 -40.46	-0.16 1.67	9.97 -29.42	-3.01 3.48	5 COS 5 SIN	-2.77 0.91	-3.43 -18.50	5.48 -40.88	1.13 0.11	10.00 -31.65	-2.60 0.17
6 COS 6 SIN	-3.97 -5.05	20.44 51.86	4.44 -5.82	-0.92 0.46	2.42 13.64	-3.40 2.37	6 COS 6 SIN	-9.22 -1.74	10.52 -12.03	2.16 -4.90	0.91 0.87	-0.29 -8.14	-2.80 -1.82
7 COS 7 SIN	-2.76 -5.76	-10.86 -13.77	-2.98 -4.65	-0.88 0.21	-5.17 -11.68	-0.71 2.16	7 COS 7 SIN	4.25 -8.91	23.89 -7.54	-2.46 -2.52	0.31 -0.58	15.18 -6.35	-0.71 0.13
8 COS 8 SIN	1.81 -1.82	25.24 110.63	25.35 3.24	-0.34 0.80	11.79 42.33	-10.82 -1.25	8 COS 8 SIN	-3.28 -1.98	32.95 25.24	8.38 7.25	0.18 0.06	4.97 -6.45	-0.84 0.18
9 COS 9 SIN	4.55 -1.16	5.11 -49.15	-1.27 2.73	0.24 0.41	-2.43 -18.33	-2.61 1.26	9 COS 9 SIN	3.79 -3.58	-45.27 7.67	7.22 3.38	-0.09 -0.77	-31.26 -19.14	1.14 1.25
10 COS 10 SIN	-4.19 -6.87	-4.71 -11.08	-24.52 9.74	0.37 -0.20	44.05 -4.03	-3.08 2.90	10 COS 10 SIN	-8.88 0.35	-24.26 118.81	-10.23 19.81	0.59 -0.26	26.27 5.07	4.30 0.14
11 COS 11 SIN	2.65 -7.40	73.50 -17.68	-26.70 -8.36	0.66 0.17	0.07 1.91	-3.26 -0.88	11 COS 11 SIN	0.87 -1.15	45.53 -40.09	-37.97 5.62	-0.22 0.35	-18.74 -17.48	-2.00 -4.37
12 COS 12 SIN	0.63 0.86	64.38 88.30	-1.86 -15.84	-0.47 0.48	-2.97 1.79	-2.77 -2.56	12 COS 12 SIN	1.55 3.37	-54.84 -14.13	17.82 11.50	-0.05 0.35	-4.48 -1.97	-0.58 2.03

FFT COEFFICIENTS FOR DATA POINT 188						FFT COEFFICIENTS FOR DATA POINT 189							
HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL
0C	66.74	-20.88	-13.34	0.38	-35.65	-82.51	0C	636.07	-9.38	-15.53	0.28	-32.23	-69.51
0.00	0.00	0.00	0.00	0.00	0.00	0.00	1C	0.00	0.00	0.00	0.00	0.00	0.00
1 COS	16.94	-8.39	1.62	-0.13	9.69	1.33	1 COS	10.60	0.33	-1.75	-0.69	14.58	-1.82
1 SIN	-12.10	-1.83	0.31	1.46	6.13	0.60	1 SIN	-12.02	-7.44	-2.44	1.06	6.98	1.41
2 COS	5.10	-8.38	1.65	0.30	3.18	0.34	2 COS	-6.34	4.06	-1.47	0.04	5.43	1.40
2 SIN	-9.03	8.25	-0.67	0.82	3.31	-0.94	2 SIN	-6.24	2.91	7.43	-0.42	6.08	-1.32
3 COS	-3.72	-1.32	-0.97	-0.42	0.58	0.59	3 COS	-19.21	50.00	-4.22	-0.90	20.22	10.04
3 SIN	-2.61	-4.74	-3.66	0.66	-4.25	7.80	3 SIN	-9.70	5.22	-0.82	0.10	-0.30	7.14
4 COS	-13.59	-92.88	-4.05	0.42	18.85	-6.66	4 COS	-42.82	-91.90	4.12	0.24	-3.21	-6.74
4 SIN	-12.26	-59.49	4.87	-0.22	-20.17	2.14	4 SIN	-54.06	60.32	20.99	-1.39	-12.21	2.39
5 COS	-0.51	-19.62	13.51	0.63	17.51	1.86	5 COS	14.70	15.54	11.47	0.73	26.74	2.20
5 SIN	7.14	-8.95	-54.02	-0.16	-33.02	-3.11	5 SIN	-4.01	-46.23	-40.31	1.12	-49.31	1.58
6 COS	-8.05	-7.47	-3.46	0.00	-0.93	4.95	6 COS	12.47	-46.50	-2.62	0.35	-16.18	-1.54
6 SIN	16.48	16.41	9.85	-0.59	16.19	-3.51	6 SIN	-3.25	-17.76	-8.60	0.51	-10.50	4.69
7 COS	-3.06	26.04	-2.39	0.91	2.99	-3.69	7 COS	5.76	0.37	-2.24	0.00	-4.68	-2.04
7 SIN	-11.52	-2.46	2.11	0.23	7.65	-0.37	7 SIN	6.55	-0.83	-4.50	0.62	-2.89	-3.18
8 COS	-2.55	63.60	-7.87	-0.24	32.70	0.19	8 COS	14.10	100.51	28.43	-1.04	0.88	0.05
8 SIN	8.08	-43.13	6.71	-0.56	-29.37	-0.20	8 SIN	-5.70	63.11	-11.68	-0.68	35.05	2.04
9 COS	1.26	-39.11	-0.87	-0.41	13.41	-1.17	9 COS	4.80	59.13	5.96	0.39	-8.40	1.78
9 SIN	4.37	15.63	16.67	0.21	-5.64	-5.23	9 SIN	9.18	-69.02	16.44	-0.02	-65.59	1.03
10 COS	-8.13	34.01	-17.48	0.23	49.10	1.77	10 COS	4.63	134.15	-12.22	-0.46	17.16	5.05
10 SIN	-1.68	79.81	10.71	-0.15	3.10	-0.61	10 SIN	3.81	25.02	-14.10	0.21	13.80	1.77
11 COS	-2.10	19.96	-12.35	-0.34	-29.69	-1.84	11 COS	-0.37	4.69	-2.12	-0.15	0.81	1.53
11 SIN	-1.79	-40.96	18.91	0.34	9.44	0.06	11 SIN	-1.34	4.06	43.24	-0.71	12.29	-1.91
12 COS	0.33	-96.19	14.66	0.27	-30.51	-0.72	12 COS	2.69	-116.50	26.19	0.17	-53.74	0.48
12 SIN	-0.53	-68.61	3.14	-0.23	-24.46	1.16	12 SIN	2.75	5.73	10.35	-0.48	-7.01	-2.84

D<sub>08</sub>

## FFT COEFFICIENTS FOR DATA POINT 190

## FFT COEFFICIENTS FOR DATA POINT 191

HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL
DC	637.98	-18.92	-12.52	1.61	-31.27	-76.41	DC	599.96	-15.21	-15.80	0.00	-37.13	-70.80
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 COS	17.79	-6.86	3.69	-0.06	13.48	-1.33	1 COS	18.44	-4.35	-1.33	-0.44	10.49	-3.13
1 SIN	-14.18	-6.05	-2.40	1.13	8.45	0.72	1 SIN	-10.46	-2.25	-0.42	0.92	9.52	0.16
2 COS	4.75	-8.39	-0.21	0.29	4.19	2.05	2 COS	11.17	-1.73	4.87	0.52	5.69	3.34
2 SIN	-4.14	0.98	2.70	-0.26	5.45	-2.99	2 SIN	-6.81	3.74	-2.51	-0.41	3.46	1.48
3 COS	-9.94	8.39	3.34	0.24	12.36	-0.03	3 COS	-2.99	21.99	1.45	0.44	8.73	-1.11
3 SIN	-0.02	13.94	-1.23	0.84	-0.42	2.89	3 SIN	1.35	1.84	-6.39	0.41	-6.83	-2.87
4 COS	-30.39	16.62	5.76	-0.38	7.17	2.17	4 COS	-7.12	-43.62	-4.33	-0.08	5.56	-1.07
4 SIN	28.35	22.35	-8.36	-0.13	10.45	1.42	4 SIN	-8.81	5.75	2.06	-0.27	-15.28	5.47
5 COS	9.16	-3.41	21.95	0.51	27.23	1.86	5 COS	3.69	4.62	13.89	-0.03	20.43	-6.24
5 SIN	-2.23	-20.64	-43.27	0.11	-51.56	3.41	5 SIN	8.39	-5.07	-49.47	0.78	-38.53	-3.02
6 COS	-4.30	7.45	-10.75	-0.19	-6.66	-2.84	6 COS	-23.49	-4.17	-4.77	0.62	-0.33	-2.01
6 SIN	-11.50	14.62	1.37	0.03	10.82	8.06	6 SIN	-4.20	19.40	7.92	-0.03	9.96	-1.51
7 COS	10.36	4.24	-3.25	-0.30	-1.28	0.31	7 COS	1.89	22.11	-5.05	0.20	10.80	-8.41
7 SIN	4.81	12.51	-1.64	-0.45	-1.99	-0.19	7 SIN	1.90	-17.42	2.30	-0.48	-7.35	-4.44
8 COS	8.24	-72.75	-8.97	0.21	-17.26	-2.49	8 COS	-1.06	-3.05	-14.85	-0.12	-0.37	5.42
8 SIN	-2.97	-8.72	7.22	0.49	-10.17	7.94	8 SIN	-4.58	-73.28	-1.52	-0.26	-33.56	9.24
9 COS	2.66	-18.95	8.67	0.27	-14.74	-0.14	9 COS	0.14	-9.08	3.68	-0.13	-7.19	-5.88
9 SIN	-4.06	18.61	-3.23	0.24	-5.62	1.30	9 SIN	-4.32	18.61	3.33	0.30	-2.71	-3.97
10 COS	0.78	-138.22	-34.26	0.01	1.34	0.04	10 COS	1.72	87.95	-13.51	-0.03	22.22	-2.72
10 SIN	-11.18	-104.90	1.55	0.46	-31.19	2.30	10 SIN	2.65	-23.62	-1.94	0.06	-15.43	1.14
11 COS	3.75	-15.64	22.45	0.27	0.54	1.80	11 COS	-1.34	-17.50	-16.03	-0.53	-31.86	-7.18
11 SIN	-4.05	26.13	-20.50	0.11	-5.36	2.14	11 SIN	-1.54	14.58	14.24	0.90	2.36	1.71
12 COS	-6.91	-111.03	-3.04	-0.25	-9.66	-0.90	12 COS	3.44	-26.01	13.95	0.26	-3.17	2.71
12 SIN	-4.67	-99.94	31.12	-0.49	-38.79	2.94	12 SIN	-1.55	29.33	-1.72	0.21	9.98	-0.91

D89

## FFT COEFFICIENTS FOR DATA POINT

## 192

## 193

HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL
0C	676.61 0.00	-15.20 0.00	-15.70 0.00	1.22 0.00	-36.41 0.00	-80.87 0.00	0C	671.93 0.00	-13.28 0.00	-15.74 0.00	0.55 0.00	-33.55 0.00	-71.83 0.00
1 COS 1 SIN	16.19 -12.98	-5.25 -3.41	-3.16 -0.42	-0.80 0.55	10.15 9.36	-4.04 0.17	1 COS 1 SIN	12.02 -10.96	-3.45 -2.97	-0.48 -0.01	-0.20 0.84	12.69 9.64	-4.34 -0.14
2 COS 2 SIN	4.25 -9.58	7.79 11.88	6.28 1.69	-0.35 0.46	5.58 7.38	-0.59 -1.41	2 COS 2 SIN	-1.67 -10.46	-3.69 9.69	-1.93 0.53	-1.19 0.84	2.11 3.55	-1.27 10.22
3 COS 3 SIN	-2.94 -10.67	21.59 6.77	-2.87 -0.34	-0.75 0.87	7.67 -2.83	2.29 3.57	3 COS 3 SIN	-8.40 -8.12	31.01 6.03	-5.75 -4.07	-0.22 0.06	5.96 -4.22	-0.63 -2.38
4 COS 4 SIN	-15.45 28.31	12.39 -25.30	5.18 -2.54	0.06 0.81	34.35 20.50	-6.38 7.93	4 COS 4 SIN	-2.82 -43.99	-40.57 -39.18	-6.69 9.64	0.22 -0.56	8.94 9.44	-8.37 2.41
5 COS 5 SIN	7.32 7.13	1.52 -18.53	15.68 -44.42	0.55 1.07	18.37 27.74	-5.43 -2.26	5 COS 5 SIN	6.71 9.32	9.21 11.01	12.51 -43.73	-1.27 0.58	16.41 -10.55	-1.91 -7.36
6 COS 6 SIN	-3.99 -8.81	-10.76 -17.68	-1.04 -8.11	0.27 0.32	-13.80 -8.37	-2.66 1.17	6 COS 6 SIN	-10.04 -0.11	3.81 18.73	8.05 -6.46	-0.02 0.65	2.00 1.27	0.72 -0.14
7 COS 7 SIN	-0.13 5.71	35.91 8.80	-0.30 -4.62	-0.04 0.69	8.80 1.20	-1.81 2.82	7 COS 7 SIN	-4.05 -1.94	7.02 -4.82	-3.81 -6.47	0.15 -0.68	8.14 -13.59	3.37 2.24
8 COS 8 SIN	-6.45 -0.36	2.72 2.94	-8.28 3.69	-0.76 -0.13	2.47 -18.34	-0.53 0.89	8 COS 8 SIN	1.71 1.15	47.62 47.24	2.52 -13.34	0.12 -0.99	43.65 21.02	3.36 1.02
9 COS 9 SIN	-0.75 -2.64	10.27 -22.25	2.96 3.80	-0.37 -0.26	-4.78 -19.89	0.43 1.73	9 COS 9 SIN	6.31 0.28	0.87 25.05	-3.63 3.42	0.98 0.11	22.22 28.09	1.81 0.49
10 COS 10 SIN	-2.15 -4.73	-73.58 77.06	-13.65 8.99	0.09 -0.15	3.09 9.70	2.19 -2.22	10 COS 10 SIN	-1.01 3.52	65.16 92.73	-0.89 6.00	-1.30 0.53	26.09 7.45	-1.49 1.53
11 COS 11 SIN	2.52 0.64	0.70 -13.38	1.66 32.81	0.55 0.53	-19.52 -11.36	4.93 2.24	11 COS 11 SIN	-1.01 -1.71	4.78 -17.68	-18.06 -9.97	-0.06 -0.24	-3.27 -12.19	-8.66 -1.01
12 COS 12 SIN	3.35 -0.18	-82.92 5.54	11.59 9.03	0.09 -0.03	-25.27 19.98	1.77 2.37	12 COS 12 SIN	0.15 1.71	-55.53 21.64	12.48 -0.36	0.21 -0.46	12.07 -0.10	-2.33 -1.97

D90

## FFT COEFFICIENTS FOR DATA POINT

194

HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL
DC	667.02	-22.53	-11.80	0.47	-32.41	-69.25	NC	632.02	-21.69	-16.01	1.59	-32.56	-74.10
1 COS	19.30	-10.91	3.44	-0.22	11.90	-4.46	1 COS	18.71	-11.45	-1.96	0.13	10.73	-4.20
1 SIN	-14.00	-5.44	-0.82	0.92	3.25	-3.49	1 SIN	-11.84	-6.08	-0.90	1.02	9.81	0.18
2 COS	6.73	-15.37	0.37	0.02	2.71	-0.92	2 COS	4.70	-5.40	5.54	-0.15	7.73	0.71
2 SIN	-7.81	5.14	3.11	-0.26	5.57	0.86	2 SIN	-4.25	-0.10	0.48	-0.13	6.03	-0.64
3 COS	-5.41	-1.24	1.89	-0.56	1.13	4.81	3 COS	-5.00	15.51	1.32	-0.37	9.09	-2.61
3 SIN	4.52	-13.16	-1.49	0.19	-5.76	3.43	3 SIN	5.69	-0.87	-3.22	1.11	-4.29	3.09
4 COS	52.76	82.66	-6.46	-0.68	-34.45	8.76	4 COS	-11.43	37.14	10.98	-1.45	-16.37	-1.03
4 SIN	12.84	-2.26	-7.73	0.92	22.57	-6.80	4 SIN	37.32	26.24	-5.47	0.08	11.19	0.72
5 COS	2.78	-29.79	24.69	-1.72	14.23	0.77	5 COS	0.38	2.14	24.69	0.71	26.13	-4.64
5 SIN	4.78	-20.81	-43.11	-0.26	-44.04	-2.17	5 SIN	-1.94	-21.47	-48.39	0.37	-43.92	-1.67
6 COS	5.46	-14.08	-4.89	-0.32	8.64	3.90	6 COS	3.40	1.34	-7.03	-0.03	-3.30	2.90
6 SIN	-5.48	38.74	4.47	-0.62	17.40	3.76	6 SIN	-2.17	47.62	-0.36	-0.86	17.55	-1.13
7 COS	7.20	18.19	0.29	-0.21	15.99	0.18	7 COS	10.00	16.32	-0.05	-0.62	8.95	2.22
7 SIN	-5.35	20.61	0.12	-0.22	8.29	2.40	7 SIN	-0.62	23.92	2.40	-1.06	5.27	-4.41
8 COS	4.56	-54.31	-10.09	1.03	-40.93	1.82	8 COS	3.38	-70.21	-14.49	-0.20	-23.43	-0.63
8 SIN	-11.85	-83.25	4.31	0.45	-43.15	-2.09	8 SIN	-3.26	-43.05	2.79	-0.38	-24.86	-0.65
9 COS	-3.45	-54.65	-12.07	-0.18	7.71	-0.74	9 COS	-2.66	-40.12	3.73	-0.09	-16.64	1.37
9 SIN	-0.90	32.27	-8.76	0.54	29.44	1.54	9 SIN	-1.09	-0.33	-6.04	1.19	-0.91	-0.62
10 COS	-5.27	-61.00	-18.81	-0.40	-17.01	-1.49	10 COS	-12.47	-164.60	-21.51	0.54	13.58	3.16
10 SIN	-4.14	39.89	-0.75	-0.47	-19.83	3.27	10 SIN	-11.23	92.66	21.68	-0.30	-21.15	-0.38
11 COS	1.47	7.75	-14.02	-0.52	-31.61	-2.26	11 COS	0.52	5.54	7.16	0.86	11.46	0.41
11 SIN	-1.49	-93.23	-48.67	0.55	-22.09	0.32	11 SIN	-1.67	-6.22	-30.24	-1.10	-39.49	1.95
12 COS	7.44	185.21	0.01	-0.33	-27.87	-0.74	12 COS	-1.10	-151.44	24.78	0.46	-29.64	-0.11
12 SIN	-1.06	191.43	-44.67	0.59	23.54	-5.80	12 SIN	6.29	70.72	6.94	-0.11	-21.47	2.30

D91

## FFT COEFFICIENTS FOR DATA POINT

## FFT COEFFICIENTS FOR DATA POINT

## FFT COEFFICIENTS FOR DATA POINT

196

HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL
DC	895.74	-15.96	-15.98	-0.47	-33.39	-64.60	DC	824.20	-22.54	-16.80	0.77	-36.78	-80.29
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 COS	14.16	-6.06	-1.98	-0.54	12.02	0.63	1 COS	18.87	-13.14	-2.71	0.60	7.52	-3.53
1 SIN	-22.23	-3.61	0.07	1.45	11.24	-1.27	1 SIN	-10.46	-4.53	-2.11	0.98	2.43	0.44
2 COS	0.82	-0.39	0.88	-0.11	7.22	-6.60	2 COS	6.24	3.17	2.90	0.79	1.34	-1.11
2 SIN	-15.91	4.71	-2.00	-0.10	4.21	-1.14	2 SIN	-6.37	13.66	0.42	-0.82	1.03	4.49
3 COS	-4.73	27.54	-2.63	0.15	10.55	0.54	3 COS	4.74	8.76	-2.90	-0.40	5.15	6.34
3 SIN	-8.03	13.74	-4.10	-0.32	-2.72	4.03	3 SIN	-4.47	16.72	-1.53	1.02	-0.56	-1.62
4 COS	7.88	-19.57	-0.99	-0.46	-2.73	-7.38	4 COS	-16.32	-109.56	-12.05	0.85	27.11	-2.46
4 SIN	-17.23	10.90	-0.02	-0.81	8.62	5.82	4 SIN	-28.94	-110.53	21.70	-0.71	-15.03	3.48
5 COS	7.20	-8.53	12.27	-1.08	11.05	1.19	5 COS	3.89	-6.45	10.65	1.10	15.05	2.50
5 SIN	9.04	-25.31	-46.95	-0.32	-33.34	2.71	5 SIN	-4.44	-2.75	-42.82	1.08	-28.74	6.42
6 COS	-14.52	12.67	9.11	-0.27	4.32	-2.99	6 COS	-10.52	7.91	6.06	-1.00	0.42	1.61
6 SIN	1.84	12.11	-7.31	-0.20	0.91	1.18	6 SIN	-12.53	35.20	5.29	-0.67	8.32	4.45
7 COS	1.16	-0.33	0.18	0.88	-0.30	0.78	7 COS	3.48	25.17	2.80	0.20	13.70	-0.68
7 SIN	0.52	-3.01	-2.20	0.80	0.54	-2.24	7 SIN	-6.18	-0.15	4.55	-0.16	5.34	-1.17
8 COS	3.99	-57.47	8.72	-0.01	-19.32	0.49	8 COS	-10.48	36.65	-7.80	0.23	-9.81	-0.36
8 SIN	-6.12	13.51	2.67	-0.69	2.85	1.62	8 SIN	13.30	-123.74	26.23	-0.19	-96.16	2.70
9 COS	3.51	-2.58	-6.49	-0.09	13.82	5.48	9 COS	-0.78	-13.40	0.73	0.15	28.98	1.10
9 SIN	-1.10	-12.16	3.92	0.43	5.23	-3.15	9 SIN	-8.74	10.63	0.93	-0.61	-9.34	2.66
10 COS	0.02	-11.75	-25.36	0.35	47.82	-1.61	10 COS	-1.47	35.68	-9.19	0.40	19.33	2.91
10 SIN	-3.24	-23.24	3.59	-0.20	-17.09	0.46	10 SIN	-8.01	40.65	1.66	0.25	-13.37	-0.29
11 COS	0.63	-37.88	-30.64	-0.77	-9.84	0.69	11 COS	6.35	7.68	18.92	0.30	7.69	-1.93
11 SIN	-1.86	-18.47	-11.61	0.78	-4.03	3.16	11 SIN	-7.24	26.76	-17.71	0.27	-0.15	1.23
12 COS	1.86	47.24	-5.71	0.24	16.28	-1.17	12 COS	3.24	51.71	-10.24	0.87	-27.41	-4.16
12 SIN	-1.78	-15.09	-2.14	-0.43	10.82	-2.82	12 SIN	4.03	-95.56	5.73	0.18	10.60	-0.52

D92

## FFT COEFFICIENTS FOR DATA POINT 198

## FFT COEFFICIENTS FOR DATA POINT 199

HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL	
DC	817.01 0.00	-17.17 -2.29	-14.98 0.00	0.70 0.00	-32.31 0.00	-66.91 0.00	DC	764.83 0.00	-18.18 -4.03	-17.74 -0.37	-0.02 0.30	-36.22 9.94	-0.00 0.64	-69.89 11.52
1 COS 1 SIN	26.78 -9.17	-8.03 -2.29	-1.07 -0.63	-0.35 0.62	11.90 7.18	-0.48 3.02	1 COS 1 SIN	20.34 -8.51	-10.81 -4.03	-4.34 -0.37	0.30 0.64	9.94 11.52	-1.96 4.20	
2 COS 2 SIN	7.69 -8.66	-1.26 8.17	5.26 -1.45	-0.28 -0.43	8.24 6.80	-5.36 -0.29	2 COS 2 SIN	3.59 -7.07	2.32 6.38	3.18 -0.41	0.36 0.58	4.30 8.05	3.28 0.36	
3 COS 3 SIN	0.81 -0.29	12.93 11.18	3.01 -5.63	-0.55 0.27	11.51 -4.31	-2.15 2.40	3 COS 3 SIN	-2.17 -1.79	14.69 -2.19	-4.15 1.68	0.35 0.75	3.20 -2.36	6.41 -0.93	
4 COS 4 SIN	-14.16 -24.38	-55.70 -53.94	-5.98 3.72	-0.44 0.17	27.75 4.21	-0.72 -8.45	4 COS 4 SIN	-26.90 -11.82	-13.88 -21.92	2.79 -1.24	0.50 -0.70	15.96 20.81	-3.30 2.49	
5 COS 5 SIN	5.75 7.44	-19.69 -11.62	16.59 -47.86	-0.20 0.52	12.80 -7.77	-2.83 2.73	5 COS 5 SIN	-2.18 8.90	-16.79 -16.79	10.41 -47.97	-1.55 0.25	13.44 -16.85	2.40 1.98	
6 COS 6 SIN	-10.99 -8.57	-5.13 39.93	1.22 9.61	-0.04 -0.60	5.74 14.20	-2.53 6.38	6 COS 6 SIN	0.09 -5.12	-26.24 0.87	4.73 -9.07	-0.13 0.71	-12.83 -6.18	0.23 0.23	
7 COS 7 SIN	0.54 -5.49	45.91 -3.76	-1.22 -2.09	-0.30 0.05	22.84 -8.05	3.13 0.90	7 COS 7 SIN	5.66 -12.52	21.35 30.75	2.69 -4.03	-0.14 0.45	2.96 14.95	3.39 4.82	
8 COS 8 SIN	-3.75 7.72	50.75 -6.37	-4.50 0.47	0.43 -0.60	31.25 0.16	0.92 2.57	8 COS 8 SIN	-6.26 -2.86	-1.36 25.70	-1.78 -4.68	1.00 0.05	8.81 4.70	-0.54 2.13	
9 COS 9 SIN	3.82 4.09	-41.67 35.61	4.28 8.35	0.18 0.62	6.84 9.97	2.63 -1.12	9 COS 9 SIN	2.08 -0.30	-84.04 -15.13	1.75 6.14	0.08 0.35	-29.76 -12.01	-8.84 -2.99	
10 COS 10 SIN	-6.02 1.54	87.64 66.40	-3.66 9.86	-0.53 -0.34	69.70 -10.39	1.91 -1.27	10 COS 10 SIN	-8.34 -6.12	-70.62 66.89	-27.31 14.08	-0.41 0.34	24.75 13.69	5.84 2.85	
11 COS 11 SIN	0.04 1.12	9.60 -7.85	16.93 23.79	-0.57 0.14	-1.60 -5.18	-0.27 1.47	11 COS 11 SIN	-1.00 -0.58	-7.18 -6.59	-26.86 27.56	0.04 0.51	18.89 -1.17	-2.63 -1.89	
12 COS 12 SIN	1.07 0.70	-17.52 -24.09	-1.32 -10.06	-0.09 -0.24	6.74 -26.23	-3.22 1.42	12 COS 12 SIN	-0.21 -3.15	28.05 39.62	10.22 -7.36	0.10 -0.78	42.06 33.86	-3.46 -0.14	

## FFT COEFFICIENTS FOR DATA POINT 200

## FFT COEFFICIENTS FOR DATA POINT 201

HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL
0C	781.80	-14.49	-16.37	0.71	-32.46	-78.20	0C	844.52	-17.00	-13.81	3.84	-31.66	-75.57
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 COS	18.20	-6.83	-2.98	0.50	13.88	-3.44	1 COS	16.01	-3.16	1.18	1.21	11.82	-2.60
1 SIN	-10.41	-4.25	-0.59	0.99	7.55	2.11	1 SIN	-8.96	0.86	-1.30	-0.19	5.10	-0.67
2 COS	3.68	2.13	5.55	-0.49	8.54	-2.24	2 COS	2.83	15.68	-0.63	-0.27	1.27	5.21
2 SIN	-8.34	6.03	0.66	-0.54	6.42	0.45	2 SIN	-8.23	13.92	-7.71	-0.64	-8.15	2.69
3 COS	-0.23	29.16	1.15	-0.23	12.10	2.17	3 COS	0.62	29.54	-6.72	-0.82	8.21	1.82
3 SIN	1.02	4.45	-5.60	0.76	-2.71	-0.56	3 SIN	-8.31	-3.99	-2.73	-0.26	-5.78	-4.73
4 COS	-26.38	-23.06	-8.90	-0.01	17.62	-7.29	4 COS	17.78	-118.28	-30.62	0.80	39.42	-8.69
4 SIN	-53.15	-38.23	6.55	-0.94	21.89	4.20	4 SIN	-57.97	-266.04	25.24	-0.58	-76.54	-3.75
5 COS	10.73	23.34	14.26	-0.82	24.06	-3.58	5 COS	-5.27	-35.40	23.99	-0.42	4.76	-8.27
5 SIN	6.82	5.52	-52.20	0.22	-31.82	-0.09	5 SIN	10.76	28.08	-44.34	1.40	-12.55	1.33
6 COS	-18.56	27.16	-6.80	-0.10	7.70	-3.97	6 COS	-14.76	1.42	5.05	0.31	2.67	4.99
6 SIN	-1.64	36.87	5.54	0.50	11.75	1.90	6 SIN	-41.64	-13.25	4.90	0.28	-24.11	-0.77
7 COS	-0.46	14.55	-3.03	-0.02	8.11	-0.23	7 COS	-2.54	-30.99	1.41	0.33	12.12	4.93
7 SIN	-15.73	43.69	-3.96	-0.02	-0.77	-2.33	7 SIN	10.43	-6.15	3.76	0.11	-9.84	3.19
8 COS	-13.87	116.87	-17.01	-0.11	68.46	0.70	8 COS	-9.92	100.35	-9.56	-0.95	44.00	0.03
8 SIN	0.26	39.94	-20.14	-0.15	8.94	1.11	8 SIN	-8.61	43.88	28.38	-0.96	-91.94	-2.50
9 COS	11.10	-50.34	0.82	0.16	-4.03	0.34	9 COS	-0.76	-41.85	-3.58	-0.37	27.98	-0.62
9 SIN	0.10	-5.09	8.75	-0.06	-2.46	0.35	9 SIN	-2.44	-13.00	12.20	-0.24	-39.03	0.62
10 COS	-1.41	100.52	-10.93	0.44	59.68	-1.74	10 COS	0.35	11.52	-8.21	-0.19	-16.44	0.40
10 SIN	-2.56	68.29	8.42	-0.38	-7.34	-2.42	10 SIN	1.86	-0.15	5.84	-0.27	-5.82	-0.96
11 COS	0.14	53.69	-7.30	0.24	18.62	-0.22	11 COS	1.26	-97.28	46.24	-0.06	31.57	4.77
11 SIN	-3.87	7.71	7.65	0.94	-14.10	-3.17	11 SIN	-0.43	-22.12	-3.91	0.40	-39.85	3.57
12 COS	-0.04	-10.76	8.39	-0.57	1.22	-1.68	12 COS	2.13	315.04	-59.79	-0.72	23.61	-4.36
12 SIN	-0.65	15.04	-9.56	0.67	-5.69	1.78	12 SIN	-8.16	32.62	-7.93	0.14	76.98	-5.60

D94

## FFT COEFFICIENTS FOR DATA POINT

202

## FFT COEFFICIENTS FOR DATA POINT

203

HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL
DC	591.21 0.00	-19.29 0.00	-16.99 0.00	1.09 0.00	-37.21 0.00	-78.77 0.00	DC	635.31 0.00	-15.91 0.00	-16.39 0.00	0.16 0.00	-33.98 0.00	-70.27 0.00
1 COS 1 SIN	21.75 -12.96	-10.09 -3.81	-2.89 -1.45	0.04 0.68	8.81 10.53	-7.17 2.54	1 COS 1 SIN	15.45 -11.83	-4.87 -7.19	-2.32 -3.06	-0.11 0.71	10.17 8.43	-9.00 5.32
2 COS 2 SIN	6.76 -10.43	2.81 9.96	6.06 -0.26	0.47 -0.18	3.58 5.22	-2.57 2.83	2 COS 2 SIN	7.37 -10.08	-1.50 12.32	2.47 7.15	-0.20 -0.16	6.26 8.22	-2.55 3.67
3 COS 3 SIN	-4.16 -7.17	21.13 5.00	-0.74 -5.17	-0.08 -0.78	6.19 -6.82	3.46 6.04	3 COS 3 SIN	-8.82 -2.32	21.69 13.74	-1.02 0.38	0.29 -0.16	7.24 -1.99	5.05 2.59
4 COS 4 SIN	-7.34 -7.34	-30.68 -14.18	0.40 -1.48	-0.32 -0.33	12.58 12.24	-1.51 6.79	4 COS 4 SIN	16.99 9.51	-7.65 10.66	-4.37 -3.66	0.46 -0.45	-1.32 -11.19	2.58 6.04
5 COS 5 SIN	13.30 2.47	-8.41 -5.42	16.32 -5.12	-0.06 0.71	11.45 -39.61	2.05 1.28	5 COS 5 SIN	0.61 -1.69	-2.03 -26.65	6.92 -50.21	-0.40 0.04	17.28 -33.95	-6.71 -1.33
6 COS 6 SIN	-11.85 2.61	4.65 26.97	-2.20 8.61	-0.26 0.75	-5.13 11.80	-1.59 0.14	6 COS 6 SIN	-3.77 -7.79	10.06 17.68	9.07 -3.29	-0.69 0.33	1.98 6.45	4.18 -3.47
7 COS 7 SIN	0.56 3.15	9.03 -5.37	-5.91 1.83	0.79 0.00	1.26 -5.21	-0.81 -0.63	7 COS 7 SIN	1.08 3.49	8.27 6.17	1.73 -3.89	-0.09 0.10	1.12 4.31	-3.47 -0.43
8 COS 8 SIN	-0.80 0.57	-31.87 -3.46	-3.74 6.47	0.56 -0.13	-5.22 1.65	0.47 -2.02	8 COS 8 SIN	5.68 -0.09	-59.75 -35.70	-2.31 7.43	-0.26 0.04	-21.21 -10.40	1.69 -2.95
9 COS 9 SIN	3.03 -3.71	-41.52 24.90	0.39 2.60	-0.65 0.42	-5.27 11.35	-2.56 -5.17	9 COS 9 SIN	1.30 -6.62	-17.04 46.25	4.33 0.72	-0.89 0.48	9.73 18.46	-0.11 2.06
10 COS 10 SIN	-4.33 0.81	75.86 4.10	-24.19 7.79	-0.05 -0.29	72.53 -21.07	1.82 0.06	10 COS 10 SIN	-7.42 -3.16	-91.27 120.09	-17.97 28.96	-0.16 0.58	50.04 11.35	1.05 -3.21
11 COS 11 SIN	0.03 -0.43	-13.96 -31.41	-14.33 23.77	0.43 -0.54	-23.50 6.42	0.40 0.40	11 COS 11 SIN	3.20 0.78	-25.80 2.86	-1.01 -20.85	0.94 0.32	-7.32 -18.46	2.87 -0.03
12 COS 12 SIN	3.46 0.90	60.53 42.11	-1.98 -12.37	-0.03 -0.05	22.18 28.71	-3.16 -2.80	12 COS 12 SIN	5.14 3.02	-84.00 16.87	18.87 9.81	0.58 -0.27	-5.40 1.30	-0.63 -0.16

D95

## FFT COEFFICIENTS FOR DATA POINT

## FFT COEFFICIENTS FOR DATA POINT

204

	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL	HARMONIC	ACC1	ACC2	ACC3	PLL1	ACC5	N2BL
DC	579.86	-14.69	-12.90	0.05	-32.59	-71.02	0.00	DC	734.04	-12.23	-15.66	0.73	-31.87	-69.87
1 COS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1 SIN	-10.73	-4.27	-0.23	0.84	0.00	0.00
1 SIN	-10.31	-3.05	3.14	-0.64	9.30	-4.98	-5.23	1 COS	19.96	-2.51	-1.01	-0.68	12.08	-0.12
2 COS	0.98	-5.60	-0.27	0.34	5.22	0.19	2.93	2 SIN	-6.52	0.89	-1.60	-0.53	5.88	1.97
2 SIN	-12.52	8.80	6.36	-0.95	6.92	2.93	0.17	3 COS	-7.85	29.74	-0.57	-0.09	12.08	-4.30
3 COS	-6.84	36.81	-1.22	0.44	13.46	8.84	4.17	3 SIN	-1.46	8.10	-6.88	0.14	-8.84	-1.63
3 SIN	-6.13	9.68	-3.14	0.59	-3.42	4.17	0.04	4 COS	15.06	19.77	9.67	-0.13	-10.41	0.47
4 COS	-14.43	-88.62	-5.25	0.25	-2.11	-5.08	1.16	4 SIN	51.92	33.15	-8.55	0.85	-2.13	-0.98
4 SIN	-56.72	30.58	22.74	-0.27	-15.87	-0.27	-0.16	5 COS	0.17	-9.37	23.63	0.43	21.34	0.47
5 COS	18.47	10.50	14.20	-0.48	22.37	-6.15	7.84	5 SIN	-0.13	-30.06	-44.97	-0.29	-49.22	-3.03
5 SIN	10.66	1.46	-38.57	-0.11	-24.22	0.22	2.95	6 COS	0.53	35.42	-2.39	0.60	7.37	-0.14
6 COS	-13.99	-12.42	-1.79	0.22	-12.49	7.57	2.95	6 SIN	-5.76	44.03	3.26	0.06	20.86	-0.48
6 SIN	-4.20	-12.13	-8.89	0.24	-12.02	2.95	0.04	7 COS	15.96	3.70	-1.62	-0.47	-6.54	-2.22
7 COS	2.12	5.16	-0.70	0.77	6.24	-0.18	-7.94	7 SIN	4.80	2.05	1.36	0.05	3.70	0.02
7 SIN	-1.41	-14.14	-4.11	-0.36	-14.49	-0.36	-0.36	8 COS	3.96	-8.44	-18.63	0.21	-1.25	3.79
8 COS	4.16	78.01	4.48	-0.59	19.02	-0.97	1.71	8 SIN	-6.63	-71.60	7.58	0.39	-50.48	4.89
8 SIN	10.96	11.32	0.47	-0.22	-6.99	-0.22	-0.22	9 COS	-5.05	71.18	-5.97	0.21	10.23	-4.20
9 COS	2.39	-7.58	3.13	0.09	10.34	2.28	0.21	9 SIN	2.35	-5.49	-8.40	-0.11	12.43	-1.00
9 SIN	-7.62	17.59	4.23	0.21	-13.38	-2.11	0.21	10 COS	-5.13	-77.51	-18.90	-0.23	-6.66	4.10
10 COS	-0.62	170.04	3.58	0.33	41.44	-8.83	6.14	10 SIN	-5.14	86.08	16.59	0.24	-9.89	-1.46
10 SIN	6.07	51.80	-12.87	0.54	6.14	-1.12	0.04	11 COS	2.09	63.97	-4.47	-0.18	10.74	2.54
11 COS	-1.15	-23.51	-10.05	-0.25	-51.17	-2.88	1.25	11 SIN	-0.89	37.06	-24.81	0.79	-15.28	-2.13
11 SIN	-2.64	-11.68	22.10	0.05	1.02	-1.02	0.05	12 COS	4.91	741.21	16.24	-0.67	-18.40	-4.71
12 COS	1.54	-119.62	14.71	-0.01	-50.32	3.97	-5.49	12 SIN	1.27	106.91	-19.37	0.22	-7.05	-2.72
12 SIN	-0.69	32.79	-1.84	0.09	-5.49	-1.75	0.04							

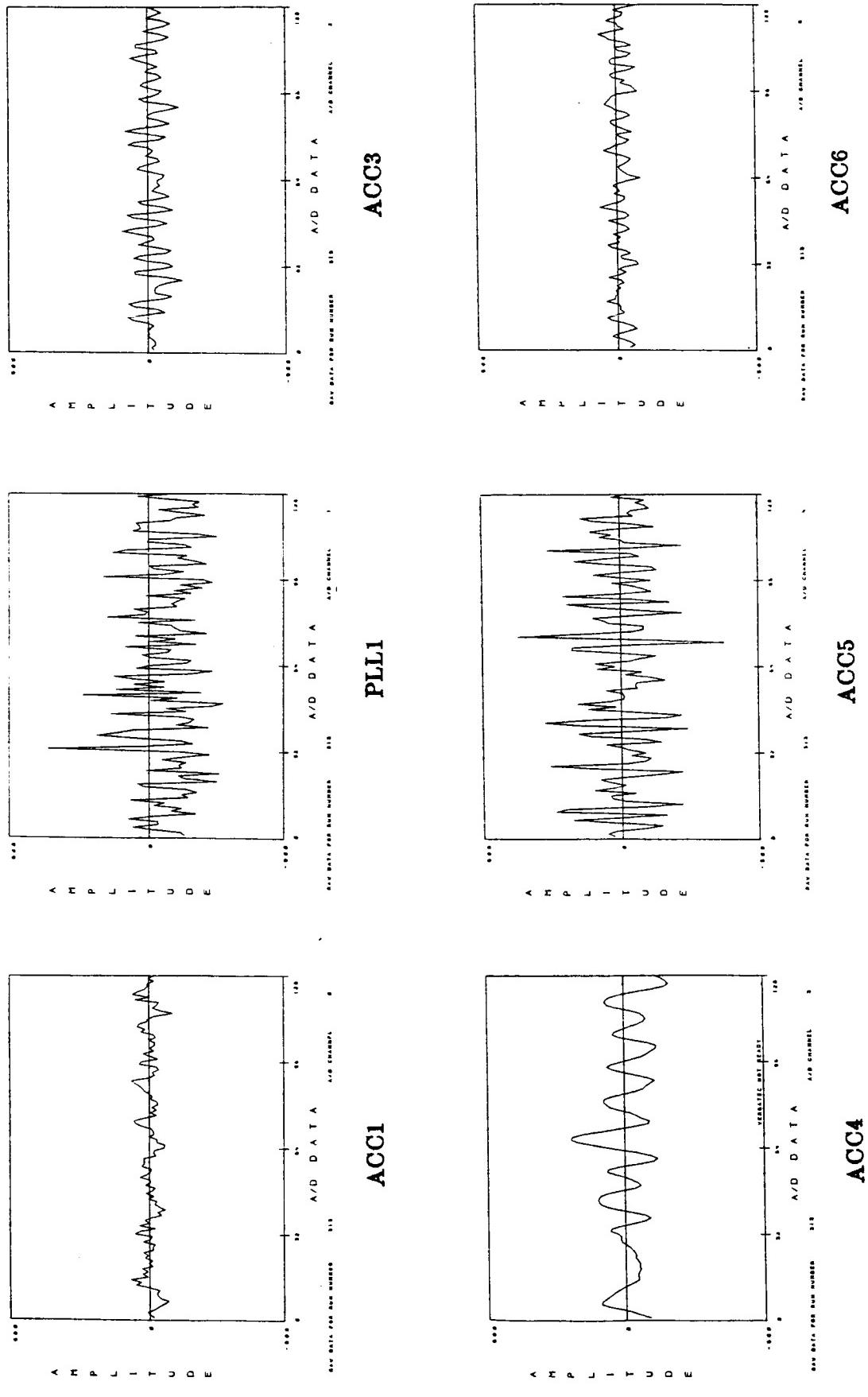
D96

## FFT COEFFICIENTS FOR DATA POINT 206

## FFT COEFFICIENTS FOR DATA POINT 207

HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	H2BL	HARMONIC	ACC1	ACC2	ACC3	FLL1	ACC5	N2BL
DC	670.69 0.00	-17.63 0.00	-16.63 0.00	0.29 0.00	-33.91 0.00	-73.34 0.00	DC	611.17 0.00	-12.77 0.00	-12.11 0.00	4.04 0.00	-34.49 0.00	-74.67 0.00
1 COS 1 SIN	19.38 -13.03	-7.93 -5.10	-3.03 -1.47	-0.44 0.71	12.45 8.75	-1.45 4.35	1 COS 1 SIN	18.95 -9.46	-0.86 -5.03	3.39 -0.95	0.95 0.06	12.02 8.80	-3.26 -0.37
2 COS 2 SIN	4.64 -8.52	1.05 5.50	5.11 2.08	-0.78 0.42	7.04 6.00	-4.85 0.15	2 COS 2 SIN	-5.19 -10.85	4.48 11.61	2.14 0.43	1.06 0.15	8.56 1.03	1.45 5.C1
3 COS 3 SIN	-12.64 -1.74	23.66 -0.66	-2.48 -3.22	-0.25 0.40	10.21 -6.57	-2.24 4.31	3 COS 3 SIN	-5.84 4.14	3.47 -5.28	2.81 1.67	0.02 -0.15	3.72 8.31	-3.80 -2.95
4 COS 4 SIN	2.01 2.97	-20.39 23.03	7.59 -1.95	-0.11 -0.06	-13.37 -11.85	2.44 2.92	4 COS 4 SIN	14.65 -61.73	82.05 -65.35	-21.36 -3.04	0.12 -0.28	22.37 12.57	2.29 3.02
5 COS 5 SIN	1.75 -1.79	5.78 -29.44	15.40 -49.24	-0.61 -0.03	27.75 -48.25	-1.92 -3.56	5 COS 5 SIN	8.94 9.98	-22.59 -0.84	23.6 -30.9	-0.83 1.12	13.31 -25.93	-4.47 4.21
6 COS 6 SIN	-5.53 -1.06	7.52 25.81	-5.69 -0.18	0.32 1.05	-4.93 10.80	-3.91 0.15	6 COS 6 SIN	-28.56 -43.61	23.62 -22.58	1.56 -9.64	1.08 0.22	-7.35 -24.11	1.60 -2.45
7 COS 7 SIN	6.52 4.69	-2.94 2.33	-4.51 -2.66	-0.64 -0.78	-9.76 -1.10	3.81 1.75	7 COS 7 SIN	2.18 3.51	-11.56 7.04	0.63 -1.97	0.97 0.48	-11.74 9.85	-1.04 -4.81
8 COS 8 SIN	-7.72 -1.00	-93.24 12.58	1.71 9.74	-0.09 -0.36	-27.87 1.25	0.97 -2.75	8 COS 8 SIN	-7.45 -22.37	-60.74 51.92	-6.77 -2.44	0.21 -0.99	-16.18 22.50	3.02 -2.90
9 COS 9 SIN	-2.05 -1.75	-9.80 8.06	-1.89 -3.13	0.34 -0.36	-5.53 0.09	2.55 0.66	9 COS 9 SIN	5.88 2.62	-0.60 -16.37	-6.72 5.19	1.11 0.07	-0.18 -2.32	1.56 5.83
10 COS 10 SIN	-2.71 -5.30	-110.01 -18.18	-30.16 12.83	-0.79 0.29	22.84 -34.89	-1.17 7.61	10 COS 10 SIN	-2.54 -3.08	75.50 15.61	-8.36 1.58	-0.05 -0.10	44.52 -5.11	-5.82 0.07
11 COS 11 SIN	1.05 -2.58	-1.48 27.00	4.14 -21.81	0.60 -0.15	14.80 -9.64	-1.65 0.17	11 COS 11 SIN	-0.03 -2.62	-0.18 -44.44	-16.54 22.14	0.11 0.18	-36.82 11.83	-1.61 2.52
12 COS 12 SIN	-2.15 2.84	-77.56 -9.47	3.44 14.84	0.90 0.28	-18.05 -21.74	1.86 1.50	12 COS 12 SIN	-3.67 -8.56	-47.32 -92.46	-1.75 2.45	0.03 0.14	42.77 -12.52	-0.49 3.70

D97



D98

Figure D5

Analog presentation of vibratory response data for data point 313.  
Data window is 1 rotor revolution, with 128 samples/rev.

## FFT COEFFICIENTS FOR DATA POINT

313

HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
0C	-3.38 0.00	-128.76 0.00	-27.55 0.00	-16.21 0.00	-5.67 0.00	-20.77 0.00
1 COS	0.12 0.99	-12.94 -6.17	-0.35 0.20	-24.12 -12.51	-0.69 1.69	0.40 -0.81
1 SIN						
2 COS	-4.46 -3.92	8.63 6.09	0.66 -0.20	11.31 -2.10	-1.21 -0.83	-2.16 -0.24
2 SIN						
3 COS	-2.57 0.83	5.10 5.46	2.16 -3.43	-2.68 5.32	-0.50 0.17	-0.51 -1.25
3 SIN						
4 COS	-4.73 9.42	3.94 -13.72	-13.75 -19.56	-2.49 -22.02	-16.16 -16.73	-11.02 -1.41
4 SIN						
5 COS	2.64 2.61	-5.91 -39.69	0.14 -0.25	-19.57 -5.57	-2.13 5.35	-4.81 4.78
5 SIN						
6 COS	-5.39 4.76	-10.60 13.10	-2.32 0.01	-3.62 -29.87	-3.49 -10.50	-4.02 1.11
6 SIN						
7 COS	7.17 17.90	10.77 -2.11	0.71 1.54	-35.47 -10.40	-1.92 0.74	4.22 -0.16
7 SIN						
8 COS	-4.22 4.26	3.51 -32.64	9.00 5.19	5.87 -9.36	-4.39 -12.90	-11.59 -1.64
8 SIN						
9 COS	6.14 -2.52	10.75 8.36	3.20 4.03	-25.02 3.48	-4.78 -6.38	-0.23 -2.53
9 SIN						
10 COS	-9.66 2.38	-7.32 -8.52	-5.59 -4.55	-4.85 -60.21	22.54 1.58	6.82 -2.22
10 SIN						
11 COS	3.09 -11.41	17.30 -1.86	-1.86 2.51	9.26 21.95	-12.70 -1.63	1.03 -2.02
11 SIN						
12 COS	7.13 -10.60	4.46 -1.14	3.98 -0.78	21.14 -6.09	4.74 17.23	-6.02 4.01
12 SIN						

## DATA POINTS 313 THROUGH 365

Used to Calculate Global Transfer Matrix

Rotor RPM = 550

LSE Batch Size = 48

Forcing Amplitude Limit  $\pm 2.0^\circ$  Root Pitch

D99

FFT COEFFICIENTS FOR DATA POINT							FFT COEFFICIENTS FOR DATA POINT							315	
HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6		
1COS 1SIN	-3.38 0.00	-128.76 0.00	-27.55 0.00	-16.21 0.00	-5.63 0.00	-20.77 0.00	1COS 1SIN	-3.92 0.00	-108.40 0.00	-28.23 0.00	-14.12 C.00	10.41 0.00	-21.26 0.00		
2COS 2SIN	-4.46 -3.92	8.63 6.09	0.66 -0.20	-24.12 -12.51	-0.69 -0.81	-0.40 -0.24	2COS 2SIN	-4.14 -0.41	4.16 4.37	0.25 0.01	5.81 -5.03	-0.18 -2.50	-0.26 -0.25		
3COS 3SIN	-2.57 0.83	5.10 5.46	2.16 -3.43	-2.68 5.32	-0.50 0.17	-0.51 -1.25	3COS 3SIN	-4.71 1.47	10.08 -2.04	-0.38 -4.05	-2.75 1.96	0.63 -0.61	0.17 -1.67		
4COS 4SIN	-4.73 9.42	3.94 -13.72	-13.75 -19.56	-2.49 -22.02	-16.16 -16.73	-11.02 -6.41	4COS 4SIN	19.91 10.77	10.95 -19.13	35.65 -1.72	-19.54 -22.46	19.83 14.15	-3.08 -4.07		
5COS 5SIN	2.64 2.61	-5.91 -39.69	0.14 -0.25	-19.57 -5.57	-2.15 5.25	-4.31 4.98	5COS 5SIN	0.43 0.91	17.96 -12.76	5.40 0.52	-9.87 -9.93	3.36 5.33	-2.62 -0.17		
6COS 6SIN	-5.39 4.76	-10.60 13.10	-2.32 0.01	-3.62 -29.67	-3.49 -10.50	-4.02 1.13	6COS 6SIN	3.24 9.56	11.67 0.42	-4.03 0.14	-46.48 -11.89	-9.36 -16.22	-5.31 8.81		
7COS 7SIN	7.17 17.90	10.77 -2.11	0.71 1.54	-35.47 -10.40	-1.92 -0.74	4.22 -0.16	7COS 7SIN	10.79 20.93	-25.23 5.22	2.73 0.92	-34.46 -17.66	3.83 1.30	-1.51 -3.35		
8COS 8SIN	-4.22 4.26	3.51 -32.64	9.00 5.19	5.87 -9.36	-4.39 -12.90	-11.59 -1.64	8COS 8SIN	11.37 -0.54	-5.41 -20.45	0.21 5.85	-3.45 7.96	-5.64 -13.46	1.79 5.20		
9COS 9SIN	6.14 -2.52	10.75 8.34	3.20 4.03	-25.02 -3.48	-4.78 -6.38	-0.23 -2.57	9COS 9SIN	5.86 -2.81	1.27 13.70	0.35 2.11	-16.91 8.94	-3.95 -17.41	-5.64 -1.82		
10COS 10SIN	-9.66 -2.38	-7.32 -8.52	-5.59 -4.55	-4.95 -60.21	22.54 1.56	6.82 -2.27	10COS 10SIN	1.80 -8.22	-5.12 6.69	-5.80 -7.05	32.91 -16.01	10.63 6.86	7.23 5.16		
11COS 11SIN	3.07 -11.41	17.30 -1.86	-1.86 2.51	9.26 21.95	-12.70 -1.63	1.03 -2.02	11COS 11SIN	10.31 -17.43	1.75 13.15	-2.50 -2.52	1.84 24.02	-2.26 -4.76	3.26 0.72		
12COS 12SIN	7.13 -10.60	4.46 -1.14	3.98 -0.78	21.14 -6.09	4.74 17.23	-6.02 4.61	12COS 12SIN	12.46 7.81	-3.53 0.76	0.75 1.90	6.03 -2.56	-12.62 -11.73	-1.03 -2.87		

D100

## FFT COEFFICIENTS FOR DATA POINT 316

## FFT COEFFICIENTS FOR DATA POINT 317

HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
RC	-4.10 0.00	-135.53 0.00	-26.70 0.00	-15.45 0.00	5.62 0.00	-21.58 0.00	NC	-6.15 0.00	-107.09 0.00	-27.32 0.00	-15.73 0.00	7.92 0.00	-20.27 0.00
1 COS 1 SIN	1.31 0.92	0.07 8.33	1.15 -0.08	-21.53 -11.02	-1.38 0.73	0.67 -0.64	1 COS 1 SIN	0.74 1.06	-21.11 13.29	0.46 -0.73	-21.15 -11.94	-0.08 2.01	0.72 -1.15
2 COS 2 SIN	-3.17 -2.66	5.36 2.47	-0.59 0.30	10.49 -4.37	-1.13 -0.37	-1.60 0.23	2 COS 2 SIN	-2.17 -1.82	42.63 -1.21	1.00 0.97	4.57 -0.70	1.25 -2.53	-0.34 -0.92
7 COS 7 SIN	-1.87 3.30	-5.27 6.40	-3.30 -0.24	1.47 7.11	-2.05 -0.30	0.24 -2.41	3 COS 3 SIN	-0.31 -0.28	0.10 -18.93	2.86 -0.12	-0.78 7.10	0.92 0.49	0.25 -2.47
11 COS 11 SIN	11.78 -6.86	-0.20 12.32	4.29 -18.64	-21.95 -3.18	5.82 -12.30	-3.72 2.22	4 COS 4 SIN	7.33 -22.27	12.21 -21.71	-15.12 -8.60	-13.00 8.04	-7.42 -18.55	-0.10 -0.55
15 COS 15 SIN	7.01 -2.57	-8.89 13.89	2.99 -0.88	-10.62 7.65	-0.51 3.57	-6.52 -0.23	5 COS 5 SIN	3.77 -4.32	-24.66 5.45	4.08 -4.36	-2.36 -6.69	0.31 1.40	-2.14 -1.44
19 COS 19 SIN	9.95 -1.86	0.15 -7.46	2.54 3.63	-19.70 32.03	-10.43 4.92	1.49 2.31	6 COS 6 SIN	3.60 -12.27	-1.64 21.56	3.91 1.23	28.75 44.22	4.81 19.19	8.47 -1.76
23 COS 23 SIN	18.19 -5.83	3.69 -12.94	1.55 -0.71	-10.82 33.85	-0.25 5.04	1.01 -0.35	7 COS 7 SIN	18.33 -19.16	-9.51 -22.58	-2.33 -2.08	11.04 45.18	5.18 -2.92	0.07 1.33
27 COS 27 SIN	-23.30 -1.16	-2.48 15.15	12.49 0.34	24.85 -7.47	-7.87 1.14	-5.89 -0.02	8 COS 8 SIN	-5.02 0.51	0.62 21.88	13.31 -11.73	15.49 -15.16	-1.62 15.99	-0.93 3.64
31 COS 31 SIN	-1.83 -4.07	-8.20 13.09	0.91 0.65	17.49 -1.47	-0.61 4.27	-0.54 -1.81	9 COS 9 SIN	3.84 4.00	13.77 -19.25	-0.14 -2.38	-22.32 -16.85	12.82 17.25	5.25 2.34
35 COS 35 SIN	-0.77 6.22	-0.61 -11.76	-0.80 -3.26	19.25 -56.07	-7.63 1.01	-2.71 -1.22	10 COS 10 SIN	2.28 10.68	-2.95 21.43	-2.14 -5.43	-42.18 -22.68	13.33 -8.66	-2.72 2.02
39 COS 39 SIN	3.24 2.51	16.57 -15.35	0.72 2.59	-11.09 -2.44	-0.03 5.50	-1.74 -1.02	11 COS 11 SIN	-0.67 2.82	-6.13 -4.66	2.13 3.80	-3.20 0.26	-2.11 -1.58	-1.36 -1.29
43 COS 43 SIN	-28.00 -12.00	-1.54 -27.35	-0.40 -0.66	-17.76 -7.20	22.71 -14.86	5.96 -7.16	12 COS 12 SIN	-27.90 -16.70	-4.78 -1.41	1.57 1.73	-16.00 1.72	-2.91 -11.05	-5.81 -10.60

D101

## FFT COEFFICIENTS FOR DATA POINT

318

## FFT COEFFICIENTS FOR DATA POINT

319

HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
0C	-7.02 0.00	-144.31 0.00	-26.86 0.00	-12.98 0.00	8.16 0.00	-21.03 0.00	-4.28 0.00	-139.64 0.00	-29.13 0.00	-14.99 0.00	-12.38 0.00	-22.72 0.00
1 COS	0.18 1.88	0.96 -4.79	-0.18 -0.57	-21.42 -11.62	-1.45 1.71	0.33 -1.19	1 COS 1 SIN	0.90 0.69	-20.77 -9.99	-1.50 0.13	-20.83 -10.28	-1.09 1.24
1 SIN												-0.19 -0.23
2 COS	-8.68 -0.59	5.16 6.34	0.08 0.48	10.08 -9.02	1.93 -0.20	-1.43 -0.69	2 COS 2 SIN	-4.85 -0.53	-2.81 -8.55	-0.16 0.58	-6.66 -6.64	-0.85 -2.24
2 SIN												-1.16 -0.04
3 COS	-3.60 -0.21	18.28 7.66	0.77 -2.81	3.34 5.00	-2.72 -0.39	-1.31 -1.08	3 COS 3 SIN	-3.69 2.35	14.04 1.64	-2.21 -2.65	0.97 -4.85	0.13 0.18
3 SIN												-1.21 -1.20
4 COS	-10.31 -3.46	3.66 23.54	-36.68 -3.11	6.20 8.76	-21.69 -4.09	-1.03 15.57	4 COS 4 SIN	-16.13 -13.06	5.16 -12.27	17.30 46.92	-0.89 14.02	-5.52 -7.82
4 SIN												-10.64
5 COS	6.14 -5.75	19.52 -5.06	0.69 -4.67	-4.10 16.04	-0.70 2.72	-2.01 5.20	5 COS 5 SIN	4.96 -9.83	15.63 29.17	4.11 -2.61	6.41 13.20	2.23 3.49
5 SIN												-0.52
6 COS	-11.22 -6.51	18.49 17.32	-1.50 0.30	33.09 -9.10	7.87 -0.05	2.15 1.64	6 COS 6 SIN	-1.42 -17.16	-2.30 1.00	0.41 -1.56	47.24 39.41	0.33 -7.56
6 SIN												-2.54 -2.51
7 COS	6.41 -22.75	6.03 -1.95	-1.95 -0.85	27.96 38.89	-0.48 -4.29	1.18 -0.33	7 COS 7 SIN	13.31 -2.63	8.01 -1.24	0.56 -3.50	-5.25 23.09	-7.45 0.72
7 SIN												-3.50 1.11
8 COS	20.00 11.15	37.49 -15.17	-3.20 -8.46	-14.63 6.16	-2.44 -0.37	-1.16 6.87	8 COS 8 SIN	-4.06 -38.90	-23.04 -2.69	0.37 11.65	28.74 34.67	-5.24 -0.94
8 SIN												-17.31
9 COS	10.68 -8.41	30.14 -0.63	4.29 -1.61	-43.71 27.35	-8.03 4.49	-6.47 2.76	9 COS 9 SIN	0.04 11.57	-2.25 15.46	-0.72 1.78	11.40 -31.14	-12.68 -2.29
9 SIN												-2.82
10 COS	-0.09 -1.62	-7.65 8.24	-4.21 -7.80	-16.14 19.64	11.12 -2.88	3.99 8.55	10 COS 10 SIN	-10.53 4.00	-11.32 18.63	-6.18 -3.20	30.64 -30.22	28.69 -8.78
10 SIN												-4.40
11 COS	-10.79 -9.41	11.08 -0.21	3.84 0.20	3.02 4.90	6.24 12.08	-1.11 1.62	11 COS 11 SIN	11.54 12.30	4.54 -8.12	0.12 -2.30	-18.24 2.66	2.47 -21.89
11 SIN												2.12
12 COS	6.86 7.31	2.78 -2.04	-1.44 1.30	-0.31 16.31	-1.16 -13.23	-5.99 -5.94	12 COS 12 SIN	19.69 5.76	-10.76 9.82	0.25 1.46	-2.86 1.76	-6.93 -19.52
12 SIN												-5.58 -7.95

D102

## FFT COEFFICIENTS FOR DATA POINT

320

## FFT COEFFICIENTS FOR DATA POINT

321

HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
0 DC	-7.08 0.00	-85.65 0.00	-28.62 0.00	-15.37 0.00	10.46 0.00	-22.37 0.00	0 DC	-5.74 0.00	-130.78 0.00	-26.44 0.00	-15.35 0.00	6.44 0.00	-22.23 0.00
1 COS 1 SIN	0.05 1.68	17.83 -23.34	-0.97 -0.05	-18.72 -14.12	1.53 0.10	0.74 -1.06	1 COS 1 SIN	2.45 2.30	14.08 -1.30	1.64 -0.85	-21.21 -9.80	-1.45 1.80	0.68 -0.64
2 COS 2 SIN	-6.67 4.47	-8.20 -14.25	-1.10 1.03	-2.37 -9.34	5.53 -4.63	1.53 -1.65	2 COS 2 SIN	-4.21 -2.96	-11.46 -9.77	-0.13 1.15	6.51 -5.21	-1.77 -2.86	-1.35 -1.41
3 COS 3 SIN	-1.56 6.40	-48.48 6.99	-4.20 -1.36	-7.22 -2.22	1.49 1.24	0.72 -0.65	3 COS 3 SIN	-1.95 -0.06	4.90 0.69	0.12 2.34	0.62 0.79	1.11 1.44	2.23 -1.61
4 COS 4 SIN	-9.66 20.00	-25.09 24.66	3.37 -8.48	10.05 -30.21	-3.16 -14.17	-3.37 -5.38	4 COS 4 SIN	3.80 -3.11	-2.43 -6.32	5.20 27.95	-10.84 6.92	-19.66 17.02	-0.30 -3.90
5 COS 5 SIN	-4.43 1.47	32.03 -1.02	2.62 0.97	7.22 -15.67	1.44 4.42	-4.32 3.60	5 COS 5 SIN	1.98 -3.25	-0.20 -8.21	5.18 -2.47	2.19 8.27	5.65 2.31	-1.72 -3.05
6 COS 6 SIN	-12.75 1.42	25.92 7.37	-1.17 -1.33	21.36 -39.63	11.53 -6.68	-1.70 -8.09	6 COS 6 SIN	-0.60 -8.36	4.25 -27.60	-1.45 -2.19	24.85 15.45	1.40 3.97	-1.75 0.51
7 COS 7 SIN	-0.30 3.76	12.14 -8.73	2.79 -1.11	-6.83 -11.41	10.42 0.42	-4.03 -4.04	7 COS 7 SIN	-0.34 -3.29	-10.52 -9.18	-1.06 -2.68	0.99 5.22	5.53 -3.48	-0.79 -0.97
8 COS 8 SIN	13.52 20.06	-0.31 -13.99	-3.89 -15.36	-27.22 -8.75	13.48 -6.14	-2.56 7.54	8 COS 8 SIN	5.00 -6.27	4.79 -6.90	-1.80 1.77	-4.64 7.67	-0.53 -2.31	-4.26 -5.95
9 COS 9 SIN	6.14 0.16	28.10 13.68	-4.38 -4.58	-15.22 -12.15	28.18 18.12	10.20 0.78	9 COS 9 SIN	9.26 1.79	-2.99 1.73	-2.24 1.88	-13.66 -6.88	1.52 -12.04	2.64 -2.81
10 COS 10 SIN	2.32 -4.95	-12.37 7.79	-2.44 -2.37	-26.20 -16.81	-17.15 4.13	2.12 3.59	10 COS 10 SIN	-4.40 2.76	10.29 1.29	-6.01 -6.93	-1.54 -29.61	16.65 -1.28	5.89 0.72
11 COS 11 SIN	6.98 -23.82	0.93 13.63	3.04 0.13	11.95 26.92	0.00 -0.19	0.73 -1.23	11 COS 11 SIN	-9.19 -0.64	1.57 -12.16	-1.97 -3.56	6.17 -6.14	-0.24 -6.60	1.29 1.29
12 COS 12 SIN	24.66 -11.77	-41.61 15.15	-2.03 0.80	-10.66 -1.77	1.78 5.75	1.22 -1.77	12 COS 12 SIN	1.38 -5.98	-14.67 9.30	-0.35 -1.26	2.93 -7.16	23.36 -2.76	1.89 0.03

D103

## FFT COEFFICIENTS FOR DATA POINT

322

## FFT COEFFICIENTS FOR DATA POINT

323

HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
0C	-7.42 0.00	-103.34 0.00	-26.43 0.00	-16.08 0.00	-9.08 0.00	-21.45 0.00	NC	-5.88 0.00	-140.70 0.00	-26.86 0.00	-13.73 0.00	7.08 0.00	-22.48 0.00
1 COS	1.44	-19.53	-0.58	-23.04	-1.03	-0.09	1 COS	-0.71	-5.68	-0.24	-16.58	-0.08	0.16
1 SIN	1.25	-24.93	-0.33	-11.40	1.32	-0.23	1 SIN	1.60	-0.93	-0.45	-12.71	0.57	-0.05
2 COS	-4.54	-7.94	-0.53	4.82	-1.68	-1.91	2 COS	-9.04	-2.65	-0.51	8.20	5.47	0.60
2 SIN	-2.03	-18.13	0.46	-2.32	-3.03	-1.27	2 SIN	1.97	-14.52	-0.08	-9.75	-2.23	-0.26
3 COS	-2.99	-40.10	-0.60	1.03	0.46	0.76	3 COS	-3.46	0.25	0.34	1.22	1.42	-1.47
3 SIN	-0.22	10.63	1.99	2.86	1.08	-2.43	3 SIN	3.32	-17.06	-3.74	-3.22	1.75	-0.19
4 COS	8.12	-1.22	23.56	-15.35	16.41	-6.46	4 COS	-22.36	9.88	-18.92	34.19	-14.61	5.22
4 SIN	-17.04	-3.64	-12.61	7.81	-9.66	-9.71	4 SIN	5.25	11.42	18.57	-1.97	-0.15	-0.49
5 COS	3.47	8.66	5.32	-10.79	4.95	-4.96	5 COS	2.40	-13.09	2.82	17.77	1.09	-4.34
5 SIN	-4.46	15.46	-3.43	6.43	2.45	-2.18	5 SIN	-7.78	17.40	-2.27	17.44	3.27	0.97
6 COS	4.90	13.73	2.82	10.16	-11.58	9.98	6 COS	-10.15	9.50	-0.38	44.55	13.65	1.60
6 SIN	-6.40	5.46	5.44	30.77	9.87	1.94	6 SIN	-4.81	-6.34	-2.04	-4.15	6.92	-1.62
7 COS	10.26	26.03	-1.70	22.45	-0.87	0.75	7 COS	-6.04	12.33	-1.24	26.45	-3.27	0.91
7 SIN	-22.16	5.31	-1.55	32.52	-4.48	1.88	7 SIN	-18.89	-10.11	0.84	12.09	0.73	2.36
8 COS	-7.12	24.17	9.62	12.09	-13.35	-1.02	8 COS	-14.53	15.08	2.63	13.10	1.27	-2.58
8 SIN	-8.09	-8.21	-6.63	-3.75	18.56	4.77	8 SIN	-16.40	10.41	5.41	2.02	-0.44	-2.58
9 COS	6.69	-10.10	3.22	-14.11	-9.59	1.45	9 COS	0.94	-11.09	1.34	4.81	2.99	4.15
9 SIN	-5.78	-11.17	0.40	-16.13	12.97	0.99	9 SIN	-7.50	-2.64	-2.24	24.19	7.83	2.32
10 COS	-1.78	-9.58	-2.18	-44.60	6.37	-2.13	10 COS	-5.39	-4.93	-8.53	45.86	-0.78	4.88
10 SIN	5.27	24.92	-5.02	-34.09	2.16	-2.50	10 SIN	-2.32	-6.91	-2.12	-7.37	-18.38	-4.91
11 COS	-1.24	2.54	-0.96	-10.74	8.71	4.74	11 COS	2.55	6.66	-2.39	4.31	-0.46	0.48
11 SIN	12.66	39.06	-3.72	0.13	7.09	1.45	11 SIN	-2.23	-7.79	2.31	4.77	0.01	-1.45
12 COS	-45.38	11.82	2.79	-23.95	8.57	-0.24	12 COS	-20.62	2.26	-0.58	-6.18	C.77	-4.46
12 SIN	-3.06	8.94	-6.03	14.66	-8.90	-5.30	12 SIN	12.22	13.33	-1.58	25.88	-27.59	0.64

D104

## FFT COEFFICIENTS FOR DATA POINT

324

## FFT COEFFICIENTS FOR DATA POINT

325

HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	
DC	-6.38 0.00	-148.34 0.00	-28.91 0.00	-16.27 0.00	5.51 0.00	-22.57 0.00	DC	-5.62 0.00	-135.27 0.00	-27.70 0.00	-14.21 0.00	6.77 0.00	-22.02 0.00
1 COS 1 SIN	1.10 2.92	-79.53 24.58	-0.73 -0.35	-19.86 -12.92	-1.4 0.91	-0.13 -1.29	1 COS 1 SIN	1.18 1.29	6.98 -1.30	1.08 -0.29	-19.99 -11.52	-0.55 1.84	1.00 -0.83
2 COS 2 SIN	-5.61 -2.23	-24.52 -1.74	-0.19 0.21	10.67 -7.23	-3.1 0.4	-2.49 0.39	2 COS 2 SIN	-4.44 1.92	-6.48 -21.11	0.47 0.46	3.94 -10.11	-0.32 -2.51	-0.17 -0.58
3 COS 3 SIN	-3.26 0.60	-17.32 -11.44	-1.76 -1.91	3.71 2.82	-2.5 0.8	-0.68 -1.10	3 COS 3 SIN	-2.53 2.50	-14.44 -10.88	-1.45 1.31	4.67 -3.05	0.17 0.92	0.89 -1.62
4 COS 4 SIN	-22.36 -0.41	9.90 -5.55	-11.83 17.65	18.50 11.97	-23.41 14.61	-3.56 5.21	4 COS 4 SIN	8.39 6.79	-1.55 -17.17	11.78 45.01	9.76 -0.24	8.15 34.35	23.64 -1.67
5 COS 5 SIN	5.97 -1.27	-0.64 2.95	-1.44 -5.65	-6.55 1.85	-3.0 5.0	-3.57 5.67	5 COS 5 SIN	4.25 -2.45	7.79 9.61	3.23 3.54	0.86 7.81	3.13 6.67	3.89 1.02
6 COS 6 SIN	-14.64 0.76	-8.71 -15.21	-4.21 -2.62	26.98 -33.02	13.11 -12.01	-4.66 -1.73	6 COS 6 SIN	5.50 12.20	12.52 27.92	0.19 -3.39	-42.99 -17.03	1.25 -9.22	-8.67 0.91
7 COS 7 SIN	-5.56 -6.43	-22.60 -10.27	0.61 -1.06	11.68 -2.35	9.71 0.11	1.01 -4.14	7 COS 7 SIN	-9.37 30.43	4.59 -2.15	2.42 0.35	-36.71 -44.87	3.82 6.41	0.14 -3.25
8 COS 8 SIN	8.18 -20.01	-0.52 -6.39	-5.79 13.10	10.18 21.91	-3.62 -9.51	6.70 -6.34	8 COS 8 SIN	-2.42 -5.94	8.21 -29.88	1.42 6.95	3.36 14.91	1.81 1.42	3.24 -10.63
9 COS 9 SIN	1.58 2.04	5.02 1.26	4.80 2.41	6.54 -9.26	-25.31 -18.41	-10.53 -3.07	9 COS 9 SIN	-2.79 8.67	3.56 -1.60	1.69 0.15	17.25 -41.70	-10.59 -7.67	-6.81 0.27
10 COS 10 SIN	-3.17 8.19	5.84 -2.92	-4.06 -0.53	12.77 -65.17	-6.31 -12.51	2.46 -7.70	10 COS 10 SIN	-4.45 4.28	0.34 4.98	3.47 -3.32	32.88 -41.22	-0.51 11.14	-5.65 3.80
11 COS 11 SIN	-2.38 -5.17	-34.53 -3.02	1.05 2.56	1.00 0.97	13.81 -1.41	1.09 -1.88	11 COS 11 SIN	-9.08 25.92	-20.37 -4.70	1.86 -0.99	-20.28 -38.27	1.18 -10.78	-2.85 -0.03
12 COS 12 SIN	5.06 -41.18	1.53 -5.83	-2.18 0.12	-31.39 -13.44	23.31 0.53	14.78 -0.23	12 COS 12 SIN	-44.06 -38.88	-0.25 -6.59	3.20 -0.86	-25.89 27.98	23.10 11.52	2.43 -5.07

U105

## FFT COEFFICIENTS FOR DATA POINT

326

## FFT COEFFICIENTS FOR DATA POINT

327

HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
DC	-6.79 0.00	-141.36 0.00	-27.19 0.00	-14.45 0.00	2.16 0.00	-21.68 0.00	NC	-6.51 0.00	-149.51 0.00	-28.15 0.00	-12.68 0.00	7.55 0.00	-22.80 0.00
1 COS 1 SIN	0.28 1.23	11.78 12.31	0.23 -0.28	-22.40 -12.00	0.00 1.39	1.34 -0.97	1 COS 1 SIN	1.11 1.22	-0.62 8.16	-0.98 -0.04	-20.69 -12.05	-1.59 1.70	0.20 -0.69
2 COS 2 SIN	-4.84 -2.29	19.73 7.01	0.02 1.08	5.27 -3.21	2.35 -2.31	0.43 -0.72	2 COS 2 SIN	-9.41 -1.70	24.06 -12.41	-0.52 0.70	9.65 -8.79	1.39 -2.45	-0.81 -0.77
3 COS 3 SIN	-1.81 3.18	6.02 -8.33	3.02 -1.07	-3.60 1.67	1.41 0.44	0.73 -1.92	3 COS 3 SIN	-3.22 1.80	-1.51 -1.52	-3.72 -1.38	8.74 1.75	-0.16 3.06	-0.44 0.42
4 COS 4 SIN	-3.62 20.73	-3.34 8.55	-6.54 -31.94	0.92 -29.47	-10.68 -25.63	-14.53 4.54	4 COS 4 SIN	-3.14 -7.59	8.48 16.00	-22.18 27.49	-7.02 10.58	-26.56 16.96	5.89 6.43
5 COS 5 SIN	-3.12 1.50	-11.25 5.98	2.07 -1.03	0.63 -20.23	1.87 2.44	-0.90 4.34	5 COS 5 SIN	8.49 -5.54	-2.09 -6.01	1.20 -1.10	-4.48 31.09	4.35 6.62	-1.68 2.50
6 COS 6 SIN	-3.59 2.64	-2.85 0.43	-5.74 -1.65	-1.08 -27.29	0.37 -7.17	-6.06 5.27	6 COS 6 SIN	6.98 4.67	-19.65 7.81	-1.23 0.14	-27.55 6.24	-2.98 -7.48	-0.56 2.41
7 COS 7 SIN	-5.52 22.06	19.09 -7.51	-0.53 -1.06	-30.19 -41.84	4.52 -4.12	-2.19 -6.23	7 COS 7 SIN	-12.80 -4.21	15.45 -5.47	1.81 0.03	9.86 -16.81	2.91 6.88	-0.20 -3.65
8 COS 8 SIN	0.35 0.89	14.24 6.61	-0.41 4.08	4.07 -0.99	2.83 -10.70	-4.25 -3.95	8 COS 8 SIN	14.92 5.36	-6.88 -0.56	-7.91 0.02	-23.58 -3.45	1.95 0.37	9.78 0.59
9 COS 9 SIN	5.36 2.15	8.56 -8.24	-2.30 0.99	-13.23 -6.98	-6.35 -6.24	-2.42 1.84	9 COS 9 SIN	-4.89 -1.56	10.41 -5.61	1.93 -4.65	18.61 8.17	6.81 17.50	0.75 2.63
10 COS 10 SIN	-7.07 -0.06	8.14 -22.39	-2.25 -3.57	47.65 -38.91	0.63 10.89	4.31 -1.50	10 COS 10 SIN	-0.29 -6.48	-14.76 0.64	-0.98 -4.69	19.65 31.44	-20.49 15.54	3.14 3.70
11 COS 11 SIN	1.34 4.21	-7.86 -4.62	-1.83 -2.65	-15.84 -0.21	4.19 -6.50	0.97 1.28	11 COS 11 SIN	-11.11 -3.69	-29.02 -12.90	-1.22 0.22	2.96 -9.64	8.59 14.50	3.08 -0.63
12 COS 12 SIN	-13.15 12.41	-24.80 -4.84	2.80 1.42	10.96 -5.87	1.56 19.55	-7.13 -10.38	12 COS 12 SIN	-1.35 11.97	-0.43 0.90	3.11 -1.27	6.54 1.91	-3.39 -0.81	-4.72 3.51

D106

## FFT COEFFICIENTS FOR DATA POINT

328

## FFT COEFFICIENTS FOR DATA POINT

329

HARMONIC	ACC1	PLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	PLL1	ACC3	ACC4	ACC5	ACC6
DC	-4.43 0.00	-140.44 0.00	-27.31 0.00	-15.20 0.00	2.70 0.00	-23.52 0.00	DC	-6.46 0.00	-104.91 0.00	-27.59 0.00	-15.09 0.00	7.76 0.00	-22.73 0.00
1 COS	0.03 0.32	-17.60 9.44	-0.11 -0.03	-22.79 -11.22	-2.17 2.34	0.05 -0.25	1 COS	1.55 2.27	-11.30 -5.11	0.28 0.23	-23.96 -10.27	-0.37 0.26	0.34 -0.20
1 SIN							1 SIN						
2 COS	-5.78 -2.18	-6.13 12.97	1.02 -0.24	9.78 -7.41	-3.18 -0.12	-2.29 1.34	2 COS	-6.08 -1.76	5.49 31.30	-0.09 0.04	9.27 -5.18	0.70 -3.42	-1.10 -1.07
2 SIN							2 SIN						
3 COS	-4.58 -0.03	-7.18 5.14	2.81 -2.64	-3.12 0.00	-0.81 -0.21	-0.56 -1.44	3 COS	-3.84 0.48	-7.35 17.08	0.78 -4.33	2.25 6.77	1.92 0.82	-0.25 -1.05
3 SIN							3 SIN						
4 COS	-13.16 4 SIN	-11.00 -7.19	39.10 -13.65	8.76 -21.14	-12.10 -12.10	-17.66 -4.86	4 COS	5.52 4 SIN	3.74 7.18	-13.18 13.29	-8.18 -10.08	-14.07 -12.96	-4.45 -15.27
4 SIN							4 SIN						
5 COS	-0.21 5 SIN	8.80 5.57	3.30 -6.38	0.77 1.77	0.38 2.56	-6.09 3.25	5 COS	8.85 5 SIN	3.26 -0.37	3.74 2.39	-13.08 14.99	0.31 8.75	-0.85 1.65
5 SIN							5 SIN						
6 COS	-12.73 6 SIN	-4.01 8.06	-0.48 0.45	2.31 -47.17	3.94 -4.59	-1.62 -2.49	6 COS	5.25 6 SIN	-27.03 7.47	-1.01 8.01	-33.57 1.84	-4.36 1.72	-2.35 0.81
6 SIN							6 SIN						
7 COS	-14.60 7 SIN	-18.18 -34.92	-2.03 2.70	25.77 -21.50	-6.39 -1.01	2.16 -1.10	7 COS	-9.18 7 SIN	0.67 3.52	0.51 -9.52	1.21 2.88	-1.29 -16.18	3.41 5.31
7 SIN							7 SIN						
8 COS	-9.91 8 SIN	-8.04 31.63	1.37 -6.32	-14.74 -7.05	1.86 -31.52	-4.69 3.43	8 COS	-12.93 8 SIN	-6.91 -12.59	-1.59 6.57	22.64 8.46	-6.91 -5.02	0.26 -6.16
8 SIN							8 SIN						
9 COS	-1.29 9 SIN	-21.80 -10.24	0.21 -8.55	3.87 0.87	-16.87 4.58	-2.96 0.74	9 COS	1.01 9 SIN	-20.05 1.57	1.98 6.26	22.88 2.83	-9.26 1.42	-5.11 -6.90
9 SIN							9 SIN						
10 COS	12.73 10 SIN	7.18 7.17	-0.91 -8.40	-29.17 -35.65	-7.43 5.99	-1.42 11.04	10 COS	-1.52 10 SIN	10.64 -10.26	-5.31 -6.87	-5.71 -12.72	2.59 -11.76	2.28 1.38
10 SIN							10 SIN						
11 COS	9.18 11 SIN	-13.55 -6.83	1.78 -2.33	-7.80 9.04	3.43 2.39	3.09 0.37	11 COS	9.48 11 SIN	-14.12 15.37	-1.77 0.92	1.51 5.04	-5.84 5.15	-0.30 -2.02
11 SIN							11 SIN						
12 COS	12.56 12 SIN	12.87 10.35	-0.28 -2.11	-29.49 -10.21	20.83 -22.17	0.59 4.32	12 COS	12.40 12 SIN	-10.30 -5.31	-0.72 -3.45	8.68 0.61	-2.84 -0.21	4.29 -15.44
12 SIN							12 SIN						

D107

## FFT COEFFICIENTS FOR DATA POINT

## FFT COEFFICIENTS FOR DATA POINT

330

331

HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
0C	-7.12	-121.78	-28.05	-15.69	-2.40	-21.71	NC	-6.70	-128.72	-28.06	-15.74	-0.51	-22.59
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 COS 1 SIN	0.63 2.23	-18.87 0.31	0.42 0.35	-21.82 -11.42	-0.88 2.51	0.81 -0.98	1 COS 1 SIN	-0.78 2.74	-3.36 22.44	-0.08 -0.02	-22.40 -12.37	0.42 2.09	0.59 -0.54
2 COS 2 SIN	-5.67 -2.35	15.47 -2.19	-0.51 0.71	6.88 -4.59	-1.39 -1.64	-0.15 -0.22	2 COS 2 SIN	-5.83 0.15	22.41 13.89	-0.62 0.69	3.72 -7.88	3.35 -2.69	0.60 -0.50
3 COS 3 SIN	-1.02 2.84	-0.15 4.06	-1.68 0.70	-1.06 5.10	-0.70 -0.16	0.99 -1.95	3 COS 3 SIN	-1.81 3.58	25.97 -4.69	0.76 -2.50	-7.51 3.81	1.50 -0.51	-0.89 -1.67
4 COS 4 SIN	-3.64 13.64	5.49 15.30	-17.99 -18.63	-3.07 -22.89	-13.26 -30.96	-5.47 -0.95	4 COS 4 SIN	5.51 13.05	-17.93 13.34	-21.93 -24.67	-9.22 -21.42	-15.44 -33.50	-9.80 1.67
5 COS 5 SIN	-0.07 2.42	11.79 12.21	-0.28 -2.62	-7.51 -9.27	-3.91 4.14	-4.45 4.85	5 COS 5 SIN	-0.62 2.46	-2.88 -4.08	-1.79 -3.92	-14.11 -14.11	-1.90 1.97	-4.44 6.22
6 COS 6 SIN	-7.40 4.91	-2.50 -0.94	0.01 4.39	7.24 -17.96	1.55 -3.06	1.70 -3.11	6 COS 6 SIN	-5.46 1.83	-9.67 -0.81	-1.26 2.61	8.57 -9.93	0.09 -4.17	4.15 -2.37
7 COS 7 SIN	5.05 -13.37	32.05 2.85	0.79 -1.88	9.71 18.77	-2.34 -0.70	-1.28 0.74	7 COS 7 SIN	15.50 -11.22	-2.54 8.42	-0.13 -1.52	-5.86 33.28	-2.17 -1.71	-0.68 1.26
8 COS 8 SIN	6.29 0.11	4.07 -11.25	-5.97 -7.57	-3.81 6.14	1.84 -11.40	-3.66 10.43	8 COS 8 SIN	-0.70 -1.50	19.85 -29.56	-0.31 -2.60	3.31 5.10	4.03 -10.87	-8.23 4.60
9 COS 9 SIN	3.94 -1.81	7.98 -43.28	-3.14 -0.91	-18.45 3.64	23.32 3.97	7.94 -4.27	9 COS 9 SIN	-1.44 0.15	15.91 8.86	0.15 -0.28	-12.21 1.65	16.34 4.25	4.97 -4.81
10 COS 10 SIN	-4.75 -1.92	8.69 15.44	-3.04 -6.93	-23.35 -36.81	6.48 0.95	4.85 4.04	10 COS 10 SIN	-1.39 -4.06	13.65 20.54	-3.04 -7.24	-7.36 -54.61	-1.08 7.37	2.53 6.01
11 COS 11 SIN	-5.37 -14.92	33.51 -5.12	2.16 3.01	17.41 12.72	6.89 -1.44	-1.02 -1.15	11 COS 11 SIN	0.21 -12.44	-16.76 6.03	-0.43 -1.49	8.90 17.95	2.41 -2.01	1.60 3.10
12 COS 12 SIN	-11.66 -18.77	-25.76 -14.66	-2.00 -1.06	-3.89 -9.49	21.99 -29.61	-3.76 -0.48	12 COS 12 SIN	-9.59 -23.34	-27.77 -24.08	0.87 -0.70	-18.57 -10.32	33.96 -15.20	-3.90 -1.14

D108

## FFT COEFFICIENTS FOR DATA POINT 332

## FFT COEFFICIENTS FOR DATA POINT 333

HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
DC	-6.32 0.00	-123.82 0.00	-28.50 0.00	-15.45 0.00	-7.03 0.00	-21.79 0.00	DC	-6.57 0.00	-120.89 0.00	-26.43 0.00	-15.30 0.00	-9.57 0.00	-21.77 0.00
1 COS 1 SIN	3.29 1.78	-3.65 -0.47	-0.21 -11.29	-18.79 1.63	-1.12 -1.14	0.E4 -1.24	1 COS 1 SIN	1.20 1.98	-7.26 9.92	0.96 -0.26	-21.60 -11.12	-1.18 0.95	1.01 -1.17
2 COS 2 SIN	-6.74 -0.12	2.76 -26.10	-0.79 0.69	6.12 -10.62	-1.22 -0.53	0.E8 1.22	2 COS 2 SIN	-4.73 -1.95	19.34 6.04	0.64 0.48	7.91 -5.32	-0.21 -1.92	-0.16 -0.46
3 COS 3 SIN	-3.63 1.60	4.46 -6.32	-1.70 -2.44	2.76 2.42	-1.13 -1.42	0.50 -1.37	3 COS 3 SIN	-3.23 -1.34	-2.93 -16.05	3.01 -0.09	0.86 -0.26	1.47 0.35	0.12 -1.29
4 COS 4 SIN	-18.07 -8.85	2.85 -24.90	31.83 12.03	18.40 15.81	18.02 19.05	2.42 -7.38	4 COS 4 SIN	3.60 -15.96	15.04 -12.63	-16.05 15.17	-15.69 17.22	-11.76 5.67	8.50 -0.01
5 COS 5 SIN	3.59 -7.55	3.56 -5.65	3.56 -4.76	12.41 18.92	2.73 2.15	-5.08 3.67	5 COS 5 SIN	3.80 -2.70	-18.38 18.96	7.54 -0.64	-0.01 3.48	4.17 4.30	-3.72 -2.32
6 COS 6 SIN	-4.59 1.54	5.38 -6.65	0.40 2.68	9.19 -17.48	-1.53 4.57	8.39 -3.33	6 COS 6 SIN	8.42 -12.43	0.90 16.93	2.97 0.89	13.32 51.60	-7.34 14.99	4.83 0.63
7 COS 7 SIN	6.82 -11.59	-8.09 10.63	1.21 0.07	7.41 21.06	-5.95 1.65	-0.58 2.57	7 COS 7 SIN	-3.05 -7.71	-4.44 15.15	0.02 -3.24	13.03 13.63	7.38 1.32	-0.60 -1.27
8 COS 8 SIN	3.12 -0.15	11.35 6.49	-7.77 -1.05	-5.48 5.80	6.63 -2.54	3.64 1.36	8 COS 8 SIN	13.55 -13.29	-2.69 -14.40	-2.31 3.71	-6.23 15.11	-11.68 3.71	-2.69 -1.27
9 COS 9 SIN	4.67 -5.17	-1.72 1.62	-0.15 3.34	-17.06 30.64	-1.19 -16.49	-1.60 -8.52	9 COS 9 SIN	-0.75 6.46	4.10 16.79	0.94 -4.04	1.07 -0.77	4.45 2.98	-2.87 3.72
10 COS 10 SIN	4.72 6.51	10.07 15.37	-1.66 -0.81	19.73 -4.12	-21.48 -16.54	-3.18 -3.90	10 COS 10 SIN	0.00 -5.44	-6.36 -4.62	-1.07 -7.03	-9.88 25.68	9.15 17.57	7.32 2.98
11 COS 11 SIN	6.20 10.87	-13.96 -1.70	4.44 -3.73	-7.69 0.41	-7.45 7.53	-4.22 2.92	11 COS 11 SIN	-9.58 -2.86	7.89 -13.43	-6.90 -0.10	4.16 -4.87	2.34 -11.68	5.62 -3.32
12 COS 12 SIN	8.65 8.87	-20.86 -3.24	-1.72 0.59	20.15 -2.57	-21.13 3.62	3.24 -5.56	12 COS 12 SIN	-1.07 14.30	2.28 5.91	0.81 -0.93	10.72 9.23	-13.29 -5.86	-4.87 -0.59

D109

## FFT COEFFICIENTS FOR DATA POINT

334

## FFT COEFFICIENTS FOR DATA POINT

335

HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
DC	-4.23	-117.70	-28.26	-14.98	2.73	-21.95	0.00	-2.97	-129.01	-28.87	-13.55	9.15	-22.81
1 COS	-0.44	23.42	-0.08	-23.57	-0.50	2.08	1 SIN	0.80	-23.57	-0.61	-20.95	-1.06	0.40
1 SIN	-0.22	22.92	-0.16	-13.06	1.94	-0.83	1 SIN	0.86	-7.79	-0.22	-12.99	1.82	-0.80
2 COS	-6.14	-8.01	0.97	6.90	1.12	-0.22	2 COS	-3.45	2.30	-0.12	7.24	-2.40	-1.43
2 SIN	0.06	4.98	0.51	-9.35	-2.03	-0.45	2 SIN	-0.64	-17.13	0.68	-4.84	-2.04	-1.02
3 COS	-5.67	-5.21	1.75	2.82	1.42	0.79	3 COS	-3.66	-9.13	-2.70	6.97	0.28	1.17
3 SIN	0.70	-27.60	-2.93	0.04	0.44	-2.39	3 SIN	-2.56	-3.58	-0.94	-0.49	0.72	-0.73
4 COS	13.76	12.34	20.09	-19.79	19.03	10.82	4 COS	-16.91	0.50	26.92	3.78	8.67	16.57
4 SIN	-10.15	-25.75	19.49	-2.84	16.63	-6.27	4 SIN	-15.24	5.97	45.74	37.88	25.86	-14.26
5 COS	5.80	-26.94	6.50	-6.05	6.64	-1.33	5 COS	7.97	18.43	2.89	-12.87	4.08	-0.11
5 SIN	-4.31	-29.72	-0.77	11.19	4.76	-0.79	5 SIN	0.65	22.44	-1.34	6.15	1.05	0.06
6 COS	16.04	-10.91	-2.40	-32.26	-8.63	1.34	6 COS	-4.28	0.24	-1.04	43.06	8.94	-3.05
6 SIN	-0.79	7.61	0.48	44.14	-0.47	7.02	6 SIN	-14.56	-1.45	-3.81	20.04	10.89	1.48
7 COS	29.27	-2.22	2.09	-30.65	2.28	-1.58	7 COS	11.48	-9.18	-0.63	-26.98	5.87	-3.26
7 SIN	-2.22	0.65	-1.47	42.40	1.06	-1.94	7 SIN	16.11	-5.05	-1.87	-4.53	-8.64	0.25
8 COS	23.64	-5.22	1.82	-11.17	-12.14	-3.05	8 COS	-22.20	25.91	9.09	20.66	9.81	-4.14
8 SIN	-2.51	-13.69	-0.01	15.03	-11.75	2.09	8 SIN	-17.02	34.23	2.19	7.17	20.63	-11.44
9 COS	0.42	-15.83	-3.48	-3.11	4.88	6.13	9 COS	2.13	-8.46	-2.28	1.83	-12.08	-0.42
9 SIN	1.36	-9.17	-1.17	-10.74	3.97	2.33	9 SIN	8.34	-5.54	0.52	-28.26	-6.59	0.39
10 COS	-1.10	-3.39	-2.96	-24.52	-29.59	2.72	10 COS	-8.32	3.73	-3.72	24.29	25.15	3.08
10 SIN	-0.81	-1.77	1.08	-21.50	0.37	2.15	10 SIN	10.36	3.84	-0.74	-35.65	-13.57	-10.61
11 COS	2.79	14.77	1.97	-4.17	-18.74	-3.27	11 COS	6.57	-17.68	-2.50	-6.22	-16.01	-1.86
11 SIN	-10.85	6.10	-2.66	14.43	-5.86	-0.63	11 SIN	7.68	1.46	1.93	-11.35	-5.93	0.98
12 COS	-3.51	-9.57	-4.28	-0.86	-19.92	3.16	12 COS	31.81	11.94	-2.09	0.45	23.58	-3.24
12 SIN	12.84	0.41	2.14	-24.00	-24.68	1.43	12 SIN	-6.17	-9.70	2.15	-0.78	-17.00	-6.33

D110

## FFT COEFFICIENTS FOR DATA POINT

33,

## FFT COEFFICIENTS FOR DATA POINT

337

HARMONIC	ACC1	FLL1	ACC3	ACC4	AC:5	ACC6	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
DC	-5.04 0.00	-110.82 0.00	-29.73 0.00	-14.30 0.00	11.10 0.00	-21.87 0.00	DC	-5.10 0.00	-141.84 0.00	-28.59 0.00	-18.61 0.00	9.77 0.00	-22.70 0.00
1 COS	0.07 0.20	-10.08 -6.51	-11.69 0.00	-21.32 -10.87	0.24 3.16	-0.47 -0.55	1 COS	0.75 1 SIN	22.74 1.63	0.36 -0.46	-23.52 -10.33	-1.31 1.33	0.22 -0.66
1 SIN													
2 COS	-3.53 -2.92	-11.11 -11.75	-2.41 0.03	-2.11 -8.19	-1.25 -2.17	-0.81 -0.17	2 COS	-5.61 2 SIN	14.19 -4.60	0.00 0.80	-2.76 -9.10	-2.14 -2.19	-1.33 -0.17
2 SIN													
3 COS	-2.35 3 SIN	-2.97 1.54	-4.12 0.25	0.32 0.72	0.12 0.74	-1.21 -1.38	3 COS	-2.28 3 SIN	-15.72 -5.66	1.99 -1.40	-10.78 -4.19	1.69 0.28	0.79 -1.98
3 SIN													
4 COS	5.91 4 SIN	-13.25 0.58	36.91 -28.87	-10.26 -11.78	23.77 -14.78	-12.44 -21.17	4 COS	9.89 4 SIN	18.30 24.80	-18.30 8.25	-14.17 -30.69	21.50 -2.90	-11.95 -12.81
4 SIN													
5 COS	-1.44 5 SIN	-2.02 11.71	5.71 -6.42	4.11 -9.26	7.55 2.22	-6.49 -1.00	5 COS	-1.46 5 SIN	4.95 1.20	1.54 0.22	-3.93 -18.14	3.17 2.63	-1.62 3.66
5 SIN													
6 COS	-8.07 6 SIN	15.63 8.06	2.12 0.84	26.71 -16.41	-0.74 1.51	3.21 -2.04	6 COS	1.60 6 SIN	10.03 -4.73	1.57 -0.19	-31.51 -25.43	-5.34 -19.73	-4.52 6.25
6 SIN													
7 COS	-8.14 7 SIN	-4.07 -29.64	-6.26 -1.70	44.37 14.33	-3.82 -14.46	-1.02 3.83	7 COS	6.62 7 SIN	6.62 0.15	1.41 4.52	-2.02 -0.68	0.64 2.12	-0.89 0.78
7 SIN													
8 COS	6.75 8 SIN	-6.57 9.28	-1.71 -11.00	-20.72 -6.96	-3.75 27.23	0.93 18.53	8 COS	28.72 8 SIN	-8.52 13.04	-4.04 -0.25	-28.01 -1.57	-11.36 -1.38	-0.04 13.98
8 SIN													
9 COS	1.28 9 SIN	-1.38 -1.40	-2.08 -8.15	-25.70 -1.00	12.82 24.66	7.86 -0.14	9 COS	3.71 9 SIN	3.28 -3.69	-1.55 13.11	-19.92 -0.01	12.18 14.43	2.95 -0.23
9 SIN													
10 COS	2.41 10 SIN	-25.53 -14.24	-5.03 -2.80	-22.44 43.21	-11.29 -12.04	1.66 -1.01	10 COS	0.24 10 SIN	23.78 -12.05	-0.98 0.10	-2.68 -8.60	3.59 12.16	3.67 25.16
10 SIN													
11 COS	-21.83 11 SIN	-7.56 -4.19	1.16 -11.27	12.54 -0.71	3.76 -7.42	6.64 0.94	11 COS	6.78 11 SIN	-2.01 -7.52	1.34 7.78	2.84 1.99	-4.87 13.94	-1.31 6.48
11 SIN													
12 COS	-30.19 12 SIN	-9.01 -6.66	1.73 -2.41	11.45 19.29	36.96 11.44	7.81 -4.98	12 COS	-4.52 12 SIN	15.16 6.79	-0.69 8.37	-13.89 -2.06	-14.40 13.99	4.60 -13.52
12 SIN													

D111

CRITICAL  
OF POOR QUALITY

## FFT COEFFICIENTS FOR DATA POINT

338

HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
0C	-6.26 0.00	-117.34 0.00	-28.33 0.00	-14.36 0.00	9.14 0.00	-22.45 0.00	0C	-6.84 0.00	-146.48 0.00	-28.84 0.00	-16.94 0.00	5.23 0.00	-22.07 0.00
1 COS 1 SIN	0.19 0.40	-24.53 -1.04	-0.36 -0.91	-21.25 -12.09	-2.30 -0.82	0.00 0.00	1 COS 1 SIN	0.01 1.68	-4.75 40.99	0.34 -0.67	-21.41 -11.67	-0.59 2.50	0.95 -1.30
2 COS 2 SIN	-7.76 1.77	16.91 -0.13	0.07 -0.93	-6.04 -7.54	-2.80 -1.34	-1.56 0.48	2 COS 2 SIN	-7.19 1.58	12.43 1.31	0.28 1.01	2.22 -9.90	-1.17 1.00	-0.72 0.89
3 COS 3 SIN	-4.64 5.15	-12.22 0.54	-1.97 -3.81	0.18 -0.86	-1.52 -3.21	-1.39 1.57	3 COS 3 SIN	-1.23 1.72	-16.96 -13.92	0.61 1.40	-6.62 3.11	-0.02 2.20	0.17 -1.34
4 COS 4 SIN	0.04 -10.68	-29.90 5.74	29.90 -36.82	-3.07 -3.48	18.34 -14.92	-16.84 10.18	4 COS 4 SIN	-0.79 16.51	-18.69 6.15	27.30 -40.34	3.45 -9.07	24.35 -9.58	-13.36 -2.45
5 COS 5 SIN	1.25 -7.16	-39.41 -20.34	8.66 -6.37	7.28 -0.16	7.16 3.02	7.77 4.41	5 COS 5 SIN	0.28 -3.12	1.74 -16.27	2.16 -4.97	-4.21 -4.50	2.96 2.22	-4.47 4.70
6 COS 6 SIN	6.15 0.60	5.91 0.08	3.14 2.84	-20.48 -3.76	-1.26 6.60	4.30 -1.15	6 COS 6 SIN	-3.17 19.15	8.01 1.76	2.58 -0.20	-51.23 -42.43	-1.02 -8.15	-4.69 -4.25
7 COS 7 SIN	-12.65 5.34	-1.51 -28.12	-0.33 5.79	-3.12 -31.70	-14.37 -4.97	2.02 2.86	7 COS 7 SIN	-10.13 16.37	-3.15 -12.71	1.63 2.48	-4.90 -37.66	-2.14 1.99	2.12 -1.89
8 COS 8 SIN	9.08 14.26	-11.88 -13.65	-4.32 -5.21	-29.93 -3.94	1.96 12.14	9.66 9.79	8 COS 8 SIN	29.09 17.74	4.46 -4.82	-9.98 -3.71	-39.28 3.35	8.51 -5.24	9.74 4.89
9 COS 9 SIN	-3.82 -5.04	0.60 11.41	1.10 0.88	13.78 29.36	10.43 9.40	1.52 -2.80	9 COS 9 SIN	-3.64 -2.07	-2.01 28.76	0.64 -0.19	18.72 3.90	1.50 9.98	-0.10 -1.75
10 COS 10 SIN	1.03 -0.01	4.67 7.18	-5.01 -3.93	22.91 26.77	-7.24 -12.81	2.05 1.44	10 COS 10 SIN	-1.36 -6.43	14.15 13.75	-1.08 -4.44	-31.48 28.14	1.71 12.69	5.38 4.55
11 COS 11 SIN	-10.96 20.05	-0.68 15.46	4.40 1.51	-14.18 -1.33	6.25 -4.95	0.97 -4.17	11 COS 11 SIN	5.63 -7.66	-19.23 -17.12	-0.42 1.48	0.31 12.65	4.33 -1.42	2.68 -1.89
12 COS 12 SIN	1.61 26.10	2.71 3.36	-2.51 -2.78	-2.72 11.52	20.50 -31.61	-1.05 -2.45	12 COS 12 SIN	12.93 -12.56	-6.34 -2.41	0.42 -1.92	6.83 33.21	-8.13 1.36	-1.88 -1.92

D112

## FFT COEFFICIENTS FOR DATA POINT

341

## FFT COEFFICIENTS FOR DATA POINT

341

HARMONIC	ACC1	FLL1	ACC3	ACC4	AC5	ACC6	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
0C	-5.38 0.00	-137.87 0.00	-28.62 0.00	-17.92 0.00	7.14 0.00	-22.36 0.00	DC	-5.62 0.00	-93.82 0.00	-26.42 0.00	-16.81 0.00	6.74 0.00	-21.81 0.00
1 COS	1.80 1.47	-16.45 -9.23	-0.08 0.47	-21.71 -10.30	-2.11 1.12	-1.01 -0.56	1 COS	2.79 1.16	-23.20 -16.15	-1.07 -0.39	-24.65 -12.19	-1.87 1.04	1.40 -1.10
1 SIN	-3.84 6.37	-5.54 -7.83	-0.99 0.22	-3.26 -9.36	-2.18 -2.19	-1.36 -0.23	2 COS	-2.64 1.53	-5.68 6.70	0.01 1.24	1.00 -5.93	-2.29 -4.62	0.32 -0.96
2 COS	-2.61 3 SIN	-20.50 2.70	-0.48 -4.36	-7.70 0.37	-0.7 -1.17	-1.07 -0.40	3 COS	-3.18 3 SIN	-28.02 -9.54	-0.37 0.80	-3.07 -4.47	0.45 0.85	2.15 -2.52
3 COS	-1.48 4 SIN	-17.50 -19.65	-7.13 -32.45	5.73 -22.44	-0.1 -32.14	-7.80 -1.20	4 COS	14.38 4 SIN	8.90 -6.18	42.58 1.20	-17.51 -26.37	19.58 7.55	0.11 -13.00
4 COS	-2.62 5 SIN	6.92 15.29	1.72 -1.86	2.75 -23.80	-2.19 1.1	-5.41 6.00	5 COS	1.50 5 SIN	-32.99 4.18	6.05 15.01	-5.01 -0.42	2.07 -17.13	0.13 4.18
5 COS	-4.88 6 SIN	12.88 -18.69	-2.11 -0.66	9.08 -14.52	1.10 -8.10	-2.70 -2.44	6 COS	2.88 6 SIN	1.15 5.95	-2.95 44.41	-18.37 2.01	-10.20 -3.45	-4.21 -4.69
6 COS	-0.77 7 SIN	4.80 -0.63	-0.11 -1.57	-1.09 -2.85	1.12 -5.19	-2.38 -0.25	7 COS	16.36 7 SIN	-29.60 12.42	-1.28 -3.48	-34.23 9.33	8.29 -12.08	-5.59 -0.60
7 COS	1.46 8 SIN	1.17 -8.17	6.31 -4.59	0.03 -7.15	3.15 -7.11	-11.54 -4.91	8 COS	-1.49 8 SIN	-10.53 13.04	1.44 -10.53	5.07 -5.61	3.12 -10.97	-23.22 -11.45
8 COS	1.51 9 SIN	-0.64 -1.48	-2.09 3.90	0.68 -3.91	1.618 2.39	7.72 1.20	9 COS	13.09 9 SIN	-22.59 -11.66	0.79 -2.05	-32.55 12.42	-25.13 7.80	-17.72 10.78
9 COS	-7.65 10 SIN	-24.63 -4.28	-4.04 -3.59	28.66 12.15	-14.17 -4.16	3.13 1.54	10 COS	1.90 10 SIN	10.69 4.35	-8.24 22.29	-16.84 -7.19	-14.83 -22.64	9.65 3.97
10 COS	-2.77 11 SIN	8.39 19.47	2.19 -2.62	5.36 6.51	7.11 -2.37	0.27 -2.95	11 COS	-7.45 11 SIN	1.38 -9.05	-1.15 3.98	19.16 -2.80	-0.44 -9.38	1.34 5.49
11 COS	22.10 12 SIN	1.40 7.87	-2.48 -3.13	19.04 6.34	22.16 37.12	-1.28 -2.23	12 COS	-3.28 12 SIN	4.22 -5.19	3.34 0.10	-28.45 16.82	-12.92 4.69	-11.08 -1.64

D113

## FFT COEFFICIENTS FOR DATA POINT

342

HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
0C 0.00	-4.70 0.00	-122.52 0.00	-25.02 0.00	-15.30 0.00	7.93 0.00	-22.79 0.00	DC	-5.43 0.00	-138.09 0.00	-28.83 0.00	-16.92 0.00	6.24 0.00	-23.47 0.00
1 COS 1 SIN	-0.73 0.74	-6.72 -12.39	0.15 -0.24	-21.16 -12.59	-2.16 0.98	0.58 -0.93	1 COS 1 SIN	0.90 0.53	-5.27 13.04	-0.66 -0.27	-25.50 -13.72	-1.95 2.03	0.34 -0.47
2 COS 2 SIN	-7.20 3.06	8.71 9.64	-0.11 1.13	3.79 -9.90	-0.06 -1.36	-0.07 0.91	2 COS 2 SIN	-1.80 -3.29	-22.80 -11.54	0.26 1.49	-2.40 -6.13	-1.25 -5.12	-0.53 -1.42
3 COS 3 SIN	-1.02 4.09	9.07 -4.08	0.23 -4.44	-7.17 2.28	-0.33 -0.51	0.42 -0.87	3 COS 3 SIN	-1.99 1.06	23.52 39.34	1.21 0.43	-5.61 -1.74	0.37 0.44	1.06 -2.38
4 COS 4 SIN	12.36 -3.90	-28.15 -48.52	-0.88 -19.55	-11.78 -33.02	9.53 -1.05	-14.37 -3.02	4 COS 4 SIN	14.50 1.41	11.01 -32.14	33.69 0.56	-12.97 -23.18	16.50 -7.77	-5.02 -17.46
5 COS 5 SIN	2.83 -1.31	-9.05 -6.11	2.69 -2.50	-7.72 -8.45	0.58 0.07	-2.87 2.46	5 COS 5 SIN	-0.32 -3.89	12.07 -11.52	1.81 -5.04	2.27 -1.57	0.70 2.71	-5.67 3.01
6 COS 6 SIN	12.36 5.76	12.87 16.01	-0.96 4.41	-46.76 20.82	-11.51 -5.58	0.15 5.32	6 COS 6 SIN	0.07 -8.67	-23.12 13.81	-0.81 3.10	25.10 22.88	-7.11 -1.20	4.30 2.12
7 COS 7 SIN	6.64 7.98	2.71 -6.42	1.20 -1.36	-26.71 -5.97	5.35 2.72	-1.50 -3.21	7 COS 7 SIN	22.24 -21.85	-21.07 6.57	-0.56 -3.01	14.56 45.54	6.81 -2.64	-3.41 -2.56
8 COS 8 SIN	12.62 -30.25	-22.75 -7.93	-8.28 14.26	2.02 33.16	-11.03 -2.56	11.47 -6.34	8 COS 8 SIN	10.36 -8.10	13.76 13.89	-0.77 -0.49	-0.33 14.09	-4.17 3.36	6.46 -0.70
9 COS 9 SIN	-7.72 -7.74	2.56 12.65	-1.14 1.61	32.44 8.41	2.56 2.81	1.25 -0.68	9 COS 9 SIN	-8.37 -0.94	7.52 -25.57	1.91 -0.74	21.68 -4.41	-9.07 17.49	-0.82 1.69
10 COS 10 SIN	-9.31 -1.84	7.55 -9.84	-4.92 -6.45	47.53 -2.24	6.14 6.64	6.51 1.63	10 COS 10 SIN	-7.51 2.03	-34.38 -9.70	-6.10 -6.55	-16.84 5.92	-2.70 -0.19	5.94 -0.36
11 COS 11 SIN	-8.05 -5.22	-9.43 14.03	1.68 4.91	19.83 5.49	0.09 6.12	-3.83 -5.46	11 COS 11 SIN	16.89 -2.69	1.64 -0.70	1.94 -3.74	-11.48 29.83	-5.46 16.91	-0.31 3.78
12 COS 12 SIN	-4.60 0.34	19.80 6.45	1.29 2.93	-1.96 2.02	-30.18 -8.95	-7.59 -3.08	12 COS 12 SIN	7.51 -4.08	26.87 2.39	-2.98 1.04	26.31 9.95	0.98 -29.38	-1.36 3.26

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OF POOR QUALITY

ORIGINAL  
OF POOR QUALITY

#### FFT COEFFICIENTS FOR DATA POINT 344

HARMONIC	ACC1	FLL1	ACC2	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
0 DC	-5.48 0.00	-127.61 0.00	-29.13 0.00	-14.81 0.00	7.65 0.00	-22.36 0.00	1 COS 1 SIN	0.34 1.40	6.85 9.85	0.62 -0.43	-19.10 -10.33	-0.01 1.58	3.31 0.00	-20.98 0.00
1 COS 1 SIN	0.74 1.53	-5.32 4.06	-0.76 -1.02	-22.61 -12.16	-1.51 2.03	0.82 -1.13	1 COS 1 SIN	0.34 1.40	6.85 9.85	0.62 -0.43	-19.10 -10.33	-0.01 1.58	0.68 -1.21	
2 COS 2 SIN	-6.68 4.04	19.32 0.05	-1.17 -0.01	5.42 -13.14	-1.42 -1.52	-0.62 0.25	2 COS 2 SIN	-7.11 1.01	2.70 29.20	0.30 -0.05	4.77 -7.97	0.03 -1.28	-0.98 0.11	
3 COS 3 SIN	-3.32 1.60	5.61 32.24	-3.92 -2.22	4.04 -0.24	-0.83 -0.14	1.05 -0.66	3 COS 3 SIN	-5.19 -0.74	-5.58 -0.80	2.65 -1.49	1.55 0.19	0.54 0.37	0.27 -1.36	
4 COS 4 SIN	20.34 5.35	-0.48 -2.07	26.51 36.45	0.14 -20.05	18.03 35.76	17.41 -2.67	4 COS 4 SIN	5.29 -20.56	2.26 -38.97	24.33 -7.56	-12.15 20.60	27.32 4.92	1.56 -2.86	
5 COS 5 SIN	9.25 -6.96	-4.55 -11.26	3.41 -1.94	-5.56 1.671	1.64 -2.85	-3.62 2.55	5 COS 5 SIN	5.63 -2.88	-41.43 -3.22	8.07 -3.12	-9.84 11.58	4.96 3.33	-7.82 0.48	
6 COS 6 SIN	10.79 15.04	-4.69 -5.66	-0.34 0.63	-64.98 -3.89	-5.97 -12.30	-4.68 3.24	6 COS 6 SIN	6.95 -0.78	25.88 9.75	-1.27 -0.01	-10.47 22.84	-9.52 0.37	2.87 4.74	
7 COS 7 SIN	6.98 28.11	-16.53 -0.77	3.79 3.48	-52.71 -20.75	-6.33 4.09	1.28 -0.40	7 COS 7 SIN	6.60 -17.75	0.32 -4.04	0.65 -1.12	18.21 24.26	2.87 2.12	-0.24 -3.98	
8 COS 8 SIN	4.62 20.30	-10.28 18.97	-5.31 -3.43	-23.15 -12.73	8.57 -5.52	-4.18 3.57	8 COS 8 SIN	12.69 -8.69	12.90 32.45	-4.49 -10.27	9.16 6.01	-3.29 11.38	5.46 5.00	
9 COS 9 SIN	0.58 2.06	15.74 3.92	-1.32 -1.66	-4.53 -11.39	0.11 8.16	1.02 2.18	9 COS 9 SIN	-13.78 -6.54	3.18 11.38	-2.93 0.37	21.34 7.20	15.59 -0.52	7.11 -6.04	
10 COS 10 SIN	2.75 3.85	-23.13 6.11	-6.11 -6.76	-5.08 -5.25	-13.56 -14.55	4.72 10.35	10 COS 10 SIN	-2.86 -2.31	-9.11 -8.15	-2.07 -1.76	0.82 10.73	-13.48 -3.98	5.42 -2.19	
11 COS 11 SIN	-3.93 -9.93	-17.40 -16.37	-3.42 -0.80	11.21 -0.67	-5.60 -7.10	5.50 -1.82	11 COS 11 SIN	-15.07 1.77	-4.19 -16.35	2.59 -1.50	9.25 -10.92	1.10 -1.39	-3.00 0.07	
12 COS 12 SIN	-0.68 -34.37	5.40 -3.63	6.23 3.93	-49.16 -18.53	-32.44 48.49	-1.51 0.03	12 COS 12 SIN	-18.01 12.87	-48.89 6.42	1.33 -1.62	-0.21 25.45	16.65 -6.19	-2.42 -1.77	

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ORIGINAL  
OF POOR QUALITY

## FFT COEFFICIENTS FOR DATA POINT

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## FFT COEFFICIENTS FOR DATA POINT

347

HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	PLL1	ACC3	ACC4	ACC5	ACC6
DC	-5.30 0.00	-158.50 0.00	-28.39 0.00	-17.90 0.00	5.48 0.00	-21.25 0.00	DC	-5.01 0.00	-136.12 0.00	-30.02 0.00	-16.51 0.00	6.92 0.00	-22.78 0.00
1 COS 1 SIN	2.19 2.02	-11.82 26.90	-0.25 -0.10	-23.32 -14.25	-1.56 0.01	0.67 -1.40	1 COS 1 SIN	1.32 2.55	-16.73 -2.39	0.29 -0.73	-23.03 -14.01	-6.49 2.43	1.18 -0.58
2 COS 2 SIN	-5.62 2.65	-6.87 -17.06	-1.23 0.38	-2.67 -11.22	-0.39 -0.31	-0.92 -0.45	2 COS 2 SIN	-3.10 4.41	-11.43 -2.94	0.40 1.31	-2.58 -9.68	1.67 -1.96	2.02 1.02
3 COS 3 SIN	-0.06 1.99	-9.62 -0.47	-2.41 -2.61	-4.19 6.67	-0.24 -0.48	0.73 -0.45	3 COS 3 SIN	2.26 3.04	-14.41 5.71	-0.72 1.24	-8.69 4.48	0.20 1.71	1.85 -1.10
4 COS 4 SIN	10.87 22.83	-3.16 7.45	8.15 -7.31	-16.39 -18.27	-1.33 -1.56	-1.77 3.75	4 COS 4 SIN	25.38 13.38	11.15 20.56	-14.79 -43.64	-28.18 -16.13	0.06 -40.47	-10.73 1.21
5 COS 5 SIN	9.88 -0.30	-21.31 -18.38	4.91 1.43	-19.07 3.35	-1.6 -0.3	-3.22 0.63	5 COS 5 SIN	2.96 -0.05	-0.08 -14.58	3.83 -2.03	-15.74 -4.50	2.30 3.52	-0.79 3.52
6 COS 6 SIN	5.48 17.81	-9.04 -3.43	-1.63 2.53	-66.16 -32.82	-1.60 -0.56	-8.85 3.84	6 COS 6 SIN	11.43 -6.51	10.77 4.60	-0.92 2.16	-12.97 33.78	-15.06 0.09	3.30 7.51
7 COS 7 SIN	-7.61 8.17	8.09 -13.71	-0.74 1.00	-11.73 -24.99	-1.95 -1.16	-2.25 -0.17	7 COS 7 SIN	10.61 0.90	-11.99 -13.76	0.07 -1.41	-16.54 7.11	-1.90 -3.52	0.47 0.51
8 COS 8 SIN	8.42 4.10	-14.34 1.32	-6.57 -7.80	-10.85 0.66	-1.87 -2.78	3.78 8.32	8 COS 8 SIN	-19.74 -33.11	12.40 22.39	7.11 14.25	29.17 9.40	-10.41 1.96	-2.50 -11.81
9 COS 9 SIN	0.61 -5.89	6.30 27.75	2.05 2.00	-8.57 10.48	-9.41 -3.17	-4.56 -1.34	9 COS 9 SIN	-5.79 3.47	1.68 -11.81	-0.56 0.66	14.40 -7.63	12.37 -1.84	1.54 -2.45
10 COS 10 SIN	3.83 3.28	-4.77 -4.75	-3.88 -2.99	-5.30 68.76	-15.86 -24.65	-0.11 2.07	10 COS 10 SIN	-0.86 8.23	-15.44 5.13	0.20 -1.34	-5.18 -58.06	-7.65 -6.93	-2.71 -2.10
11 COS 11 SIN	8.07 -12.70	-12.52 -22.06	-0.80 2.29	4.80 13.36	-7.51 -1.44	-1.28 -3.24	11 COS 11 SIN	-5.29 4.27	-1.06 15.93	3.07 0.01	7.80 -9.86	3.13 2.06	-1.41 4.22
12 COS 12 SIN	-1.70 -6.08	-26.30 -19.19	-0.73 -0.34	6.02 -10.94	12.09 -13.97	3.30 -2.85	12 COS 12 SIN	0.30 0.17	1.76 -5.73	1.18 -0.31	-2.66 -11.63	-6.20 8.53	-4.31 4.78

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ORIGINAL PAGE  
OF POOR QUALITY 63

## FFT COEFFICIENTS FOR DATA POINT

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## FFT COEFFICIENTS FOR DATA POINT

349

HARMONIC	ACC1	PLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
0C 0.00	-7.27 0.00	-112.94 0.00	-28.26 0.00	-15.31 0.00	6.71 0.00	-22.37 0.00	DC	-3.52 0.00	-86.35 0.00	-30.02 0.00	-15.61 0.00	8.85 0.00	-24.05 0.00
1 COS 1 SIN	0.76 1.84	-19.69 0.62	-0.01 0.25	-20.89 -10.37	-0.81 1.61	0.00 -0.88	1 COS 1 SIN	0.95 1.18	19.62 13.76	-0.83 0.79	-20.25 -12.08	-1.91 0.46	-0.06 -0.03
2 COS 2 SIN	-6.40 -1.33	-6.46 9.39	-0.30 0.82	8.17 -6.28	0.01 -3.82	-0.92 -1.20	2 COS 2 SIN	-4.43 4.54	-3.43 14.60	-1.65 -0.22	2.23 -10.63	1.39 -1.90	-0.96 0.62
3 COS 3 SIN	-0.58 1.48	-5.39 -5.05	-3.12 -0.72	3.37 12.12	-1.41 1.21	-0.15 -0.32	3 COS 3 SIN	-5.22 1.22	-1.67 -15.09	-2.97 -4.67	1.15 -1.70	-0.58 -0.30	-0.13 -0.37
4 COS 4 SIN	8.01 -14.06	13.53 20.88	-29.44 12.26	-25.94 12.72	-32.03 8.03	-0.16 9.34	4 COS 4 SIN	3.12 -13.71	-0.72 10.35	13.31 -0.27	0.03 13.18	15.01 1.54	0.35 -2.94
5 COS 5 SIN	7.12 -2.65	-27.66 3.01	2.48 -0.38	-13.13 22.20	2.85 7.21	-1.03 3.60	5 COS 5 SIN	2.72 -7.31	6.58 9.18	3.04 -2.92	6.55 14.22	-0.89 4.51	-7.52 1.08
6 COS 6 SIN	2.34 0.11	5.83 -0.20	-0.79 -1.51	-3.92 0.35	-3.87 -0.23	-2.04 3.40	6 COS 6 SIN	7.83 -8.20	-10.14 10.46	1.51 1.70	1.39 45.67	-2.55 6.39	5.28 1.87
7 COS 7 SIN	-9.96 -5.73	-12.11 -0.72	2.74 0.07	16.22 -3.88	4.21 6.26	0.50 -6.42	7 COS 7 SIN	13.07 -17.88	-7.26 -0.81	0.45 -0.49	11.65 39.04	3.23 2.94	-0.38 -3.96
8 COS 8 SIN	-1.80 14.57	-24.03 24.22	3.43 -3.55	-13.40 -18.91	-7.11 6.31	-1.36 4.74	8 COS 8 SIN	5.80 -10.48	-21.43 -12.98	-6.38 1.30	2.41 12.52	1.53 4.60	8.97 -0.62
9 COS 9 SIN	1.55 -4.41	-9.14 -16.35	0.47 -2.69	-1.76 3.63	-4.52 4.89	-1.47 2.72	9 COS 9 SIN	-6.23 8.04	-30.29 -25.64	-1.62 1.16	9.77 2.90	0.99 -4.60	0.19 -3.08
10 COS 10 SIN	2.11 1.30	31.13 23.39	3.34 -6.72	-8.86 8.15	-11.86 12.11	-5.91 8.83	10 COS 10 SIN	-7.22 4.75	27.30 -10.72	-3.07 -8.20	7.54 -15.85	11.17 20.06	1.38 0.32
11 COS 11 SIN	-11.75 -25.03	-14.72 -8.26	1.20 0.28	32.50 0.03	6.51 1.16	-3.07 -1.03	11 COS 11 SIN	8.88 5.28	2.33 -13.21	2.75 -3.05	-4.18 4.68	1.59 3.10	-2.74 1.36
12 COS 12 SIN	5.05 -14.01	-2.77 14.60	-1.96 -0.08	-10.90 -10.16	12.18 -11.11	2.33 1.33	12 COS 12 SIN	15.91 15.77	9.29 -19.42	-0.29 1.59	15.39 2.67	-10.31 4.86	0.64 -1.60

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ORIGINAL PAGE  
OF POOR QUALITY

## FFT COEFFICIENTS FOR DATA POINT

350

## FFT COEFFICIENTS FOR DATA POINT

351

HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	AC1	FLL1	AC3	AC4	AC5	AC6
DC	-6.74 0.00	-137.97 0.00	-28.23 0.00	-15.69 0.00	4.05 0.00	-21.48 0.00	DC	-6.23 0.00	-110.45 0.00	-26.90 0.00	-15.13 0.00	8.08 0.00	-21.09 0.00
1 COS	-0.66 1 SIN	-3.75 28.12	-0.19 0.37	-23.04 -12.34	-0.83 1.76	1.05 0.41	1 COS	1.29 -0.01	8.20 -15.05	0.43 -0.40	-20.88 -12.95	-0.06 1.97	0.37 -0.91
2 COS	-5.93 2 SIN	17.86 -18.70	-0.30 0.86	4.26 -9.08	-0.32 -3.95	-0.26 -0.82	2 COS	-4.39 -2.17	-10.68 6.08	-0.31 -0.07	1.62 -6.92	0.91 -2.30	0.24 -0.14
3 COS	-4.05 3 SIN	5.89 -13.47	2.48 -0.20	4.20 -0.02	2.13 2.81	1.04 -1.75	3 COS	-3.07 -2.90	-4.81 -15.37	3.72 -1.37	-2.34 0.04	0.38 0.82	-0.61 -0.77
4 COS	19.53 4 SIN	5.26 -2.46	-10.06 35.28	-22.26 -5.46	-18.74 21.98	6.64 2.97	4 COS	-5.65 16.60	2.58 2.82	10.06 -37.07	1.60 -18.19	1.29 -28.07	-18.03 -2.99
5 COS	4.36 5 SIN	-1.66 -4.37	2.63 -19.76	-4.90 1.85	3.91 13.70	1.76 0.50	5 COS	-5.38 -1.40	22.33 -11.87	2.71 -2.68	10.40 -19.12	3.58 3.62	-0.82 3.01
6 COS	11.64 6 SIN	-18.76 4.23	-1.63 -0.36	-38.16 21.42	-6.88 -5.18	-2.62 5.29	6 COS	-8.63 3.13	-17.63 -5.52	-5.29 -2.96	-2.45 -33.19	3.10 -10.19	-7.88 2.79
7 COS	-11.04 7 SIN	-14.61 25.61	0.89 -7.12	-27.12 2.79	-3.70 -42.55	0.10 4.62	7 COS	-19.45 20.84	16.58 14.22	-2.11 1.22	-3.62 -57.52	-1.84 -5.16	-1.20 0.16
8 COS	-12.11 8 SIN	-7.73 3.51	2.33 27.86	11.06 12.15	15.61 -8.46	2.08 -7.21	8 COS	14.39 -1.19	-11.60 -12.15	-5.26 4.55	-15.09 9.88	7.56 -1.76	5.04 -4.95
9 COS	-10.45 9 SIN	-10.92 1.62	-0.16 -6.65	36.26 -0.87	-2.19 -21.45	-2.69 0.62	9 COS	-0.14 -7.32	10.25 -12.40	-4.26 2.03	0.97 -0.32	15.01 -8.38	1.85 -4.05
10 COS	-2.77 10 SIN	16.23 -0.16	-3.20 7.66	43.97 -4.64	-6.03 -24.73	3.16 -1.45	10 COS	-4.91 -6.26	19.66 19.24	-5.58 -6.45	46.46 2.67	1.53 2.63	8.55 2.15
11 COS	16.86 11 SIN	-4.65 7.38	-1.57 -6.06	-16.46 0.61	7.40 -0.41	-1.45 -7.36	11 COS	-1.71 5.10	4.60 10.71	0.16 -2.62	-14.94 2.76	4.84 0.25	-0.32 -1.41
12 COS	10.95 12 SIN	-18.91 -3.96	1.75 0.45	37.40 -5.46	40.85 12.60	-1.35 -3.68	12 COS	12.43 -24.93	5.88 2.13	-1.96 -2.93	-8.95 14.18	-13.08 -6.62	4.42 -6.23

## FFT COEFFICIENTS FOR DATA POINT 352

## FFT COEFFICIENTS FOR DATA POINT 353

HARMONIC	ACC1	PLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	PLL1	ACC3	ACC4	ACC5	ACC6
DC	-5.26 0.00	-127.86 0.00	-29.91 0.00	-12.98 0.00	5.71 0.00	-22.80 0.00	DC	-3.45 0.00	-134.43 0.00	-28.12 0.00	-15.87 0.00	1.13 0.00	-23.19 0.00
1 COS 1 SIN	1.26 0.83	-18.45 -5.57	-1.11 -0.88	-21.99 -10.40	-1.71 0.41	0.07 -1.07	1 COS 1 SIN	2.04 1.53	9.24 -20.65	-0.46 -0.30	-22.02 -11.28	-1.07 1.93	0.82 -0.48
2 COS 2 SIN	-5.76 -0.20	23.55 -1.11	-0.64 -0.35	6.08 -6.16	-0.41 -2.71	-0.67 -0.79	2 COS 2 SIN	-2.93 3.39	22.54 9.42	1.01 0.84	0.68 -8.38	1.82 -5.56	1.29 -1.90
3 COS 3 SIN	-4.53 0.07	-1.50 5.73	-4.12 -3.68	7.32 -1.19	0.51 0.11	1.37 -0.86	3 COS 3 SIN	0.73 1.43	9.50 -15.96	2.88 -1.78	-3.68 1.93	1.38 2.20	1.38 -0.63
4 COS 4 SIN	-9.64 -5.38	18.75 -19.67	15.93 48.03	6.44 5.27	-5.21 26.51	15.09 -4.66	4 COS 4 SIN	19.87 -6.61	4.16 6.35	-22.01 40.18	-21.95 -3.91	-25.73 1.80	15.24 4.77
5 COS 5 SIN	5.24 -10.76	-0.11 8.58	2.99 1.67	11.91 19.69	2.91 7.27	0.80 -0.73	5 COS 5 SIN	11.12 -3.40	9.42 9.10	3.27 -0.55	-14.17 25.75	0.48 1.24	1.64 2.50
6 COS 6 SIN	6.06 -3.43	-6.55 -22.61	0.97 0.79	6.67 27.69	2.91 -2.11	0.07 -1.64	6 COS 6 SIN	13.46 8.89	-2.56 2.00	-0.51 3.11	-45.30 18.57	-5.13 1.34	1.89 0.52
7 COS 7 SIN	-10.49 14.14	-24.74 21.05	2.40 -0.56	-8.30 -26.26	8.14 2.71	-2.82 -0.30	7 COS 7 SIN	-18.48 6.78	8.39 -23.48	0.53 1.59	4.65 -32.53	-5.18 5.90	1.11 -0.72
8 COS 8 SIN	-7.18 -13.70	-6.91 -2.45	-0.33 15.17	5.59 10.91	0.53 -3.41	3.23 -16.15	8 COS 8 SIN	3.28 -1.85	-10.03 9.33	-3.15 3.03	-7.14 0.36	12.68 -0.68	6.81 -5.37
9 COS 9 SIN	-2.76 6.82	-17.77 -3.95	0.61 4.50	15.12 -40.18	-14.21 -29.05	-7.73 -6.79	9 COS 9 SIN	-9.87 -1.32	-4.15 22.30	-1.71 -1.03	30.52 7.42	-18.36 -8.24	-6.83 1.19
10 COS 10 SIN	-5.01 7.06	-0.32 4.68	-6.06 -4.42	14.75 -36.09	9.12 -11.17	6.10 1.29	10 COS 10 SIN	-0.31 -2.11	9.18 -7.40	1.81 -6.06	22.01 8.63	-14.71 13.40	-0.34 7.18
11 COS 11 SIN	7.81 9.30	6.85 2.73	0.11 -0.97	-14.27 4.29	3.70 -9.56	-4.85 3.69	11 COS 11 SIN	16.45 2.87	-3.23 23.12	-3.67 -4.99	-16.79 12.62	1.10 5.75	4.05 4.80
12 COS 12 SIN	1.68 -21.73	-13.28 -2.88	0.41 1.19	-3.87 9.98	11.52 -1.89	1.33 -11.72	12 COS 12 SIN	-7.04 7.59	-8.56 29.25	1.60 -2.60	17.01 17.91	19.72 12.01	5.35 -2.43

D119

QUALITY

## FFT COEFFICIENTS FOR DATA POINT

354

## FFT COEFFICIENTS FOR DATA POINT

355

HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
0C 0.00	-5.67 -0.00	-159.92 0.00	-28.82 0.00	-16.63 0.00	7.27 0.00	-23.71 0.00	DC	-4.02 0.00	-144.48 0.00	-29.70 0.00	-17.12 0.00	8.61 0.00	-23.83 0.00
1 COS 1 SIN	0.99 0.22	-17.42 5.45	0.27 -0.56	-21.67 -12.15	0.36 2.32	-0.25 -1.20	1 COS 1 SIN	3.40 -0.42	15.51 -15.05	-0.98 -0.15	-22.94 -11.25	-2.09 1.81	0.01 0.29
2 COS 2 SIN	-3.35 4.95	-5.15 -26.15	-1.02 0.86	-4.25 -9.27	0.94 -3.31	-0.46 -0.22	2 COS 2 SIN	-3.16 1.12	-11.78 -3.76	-1.28 -0.26	1.73 -4.96	-0.58 -3.01	-0.59 0.31
3 COS 3 SIN	-1.18 2.59	-1.99 2.58	-3.97 0.95	-5.08 2.55	0.35 1.15	0.00 -1.26	3 COS 3 SIN	-5.43 0.38	19.97 7.74	0.04 -4.15	0.60 0.52	0.67 -1.47	0.37 -1.44
4 COS 4 SIN	2.90 -8.24	13.05 -0.04	39.14 -4.89	3.62 -10.64	31.34 -16.77	1.31 -23.59	4 COS 4 SIN	22.13 3.63	-7.39 -0.96	31.25 1.18	-25.52 -17.48	18.65 16.55	-0.09 -1.54
5 COS 5 SIN	-4.41 -7.05	5.14 16.31	4.23 -5.63	21.05 -2.60	8.14 3.31	-4.83 2.43	5 COS 5 SIN	1.64 1.71	-7.57 -5.64	3.77 0.77	-10.72 -10.78	2.58 6.65	-1.46 -1.26
6 COS 6 SIN	-1.31 -14.97	3.70 12.68	-1.06 3.27	36.55 23.10	-6.95 -2.00	6.17 1.15	6 COS 6 SIN	5.87 8.93	-10.77 -33.68	-2.26 -0.72	-43.04 -6.69	-9.76 -7.97	-4.57 7.00
7 COS 7 SIN	-8.74 -33.76	6.03 -2.32	-1.12 -2.47	54.24 27.39	10.27 -0.73	-1.13 -6.24	7 COS 7 SIN	12.37 28.29	27.36 -12.88	0.05 -0.63	-47.56 -21.12	3.16 -3.22	0.51 -2.38
8 COS 8 SIN	-2.31 1.96	27.79 -4.94	0.98 -5.57	-0.27 -11.06	-8.31 12.51	1.25 13.04	8 COS 8 SIN	-0.26 -4.32	6.06 -6.14	9.45 6.89	6.74 12.40	-28.05 -2.55	-5.80 2.62
9 COS 9 SIN	3.06 2.49	12.69 5.82	-3.59 -1.11	-7.55 2.50	22.82 0.95	5.93 -5.53	9 COS 9 SIN	13.98 -4.43	-8.56 -15.06	-2.64 -2.63	-37.41 10.35	-6.25 8.45	0.12 8.23
10 COS 10 SIN	-0.15 0.60	6.55 15.58	-4.69 -2.68	-46.68 -7.66	-0.07 -2.14	1.21 -1.25	10 COS 10 SIN	2.69 -0.86	12.12 7.13	-9.13 -6.63	-5.30 -6.49	7.24 -6.08	8.69 0.52
11 COS 11 SIN	-16.74 -31.16	-2.89 -14.67	3.72 0.87	48.05 4.64	1.21 1.71	-5.29 -4.39	11 COS 11 SIN	17.77 -16.21	21.12 -4.42	-5.94 -2.42	10.30 15.71	-3.78 -3.97	3.39 2.96
12 COS 12 SIN	28.28 -34.88	-8.97 26.44	5.09 1.62	-22.19 -5.52	-5.00 26.61	6.05 -6.05	12 COS 12 SIN	27.41 -3.72	-7.41 -19.44	-1.53 3.06	12.00 -4.80	-33.47 -0.62	0.04 -5.24

D120

## FFT COEFFICIENTS FOR DATA POINT 356

## FFT COEFFICIENTS FOR DATA POINT 357

HARMONIC	ACC1	PLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	PLL1	ACC3	ACC4	ACC5	ACC6
DC	-6.24 0.00	-119.05 0.00	-30.63 0.00	-14.70 0.00	5.74 0.00	-23.27 0.00	DC	-4.43 0.00	-127.85 0.00	-29.27 0.00	-17.34 0.00	9.28 0.00	-23.40 0.00
1 COS 1 SIN	-0.52 1.08	7.97 -1.87	-1.46 -0.82	-19.29 -11.50	-0.27 2.57	0.00 -0.71	1 COS 1 SIN	-0.33 1.59	8.13 19.65	0.69 -0.17	-26.30 -15.02	-0.11 1.46	0.75 -0.34
2 COS 2 SIN	-8.69 -0.25	-9.48 11.71	-0.89 -0.66	-8.22 -10.08	-1.71 1.60	-1.08 1.08	2 COS 2 SIN	-4.57 -1.12	2.33 11.11	-0.53 0.41	5.62 -6.49	2.23 -2.45	-0.03 0.30
3 COS 3 SIN	-3.19 1.77	-13.14 -7.94	-3.13 -2.44	0.51 2.18	-1.07 -1.03	-0.95 -1.25	3 COS 3 SIN	-1.34 1.52	-7.10 -22.44	1.58 -3.37	-5.04 4.29	0.54 0.45	-0.54 -0.87
4 COS 4 SIN	-7.67 -5.67	-37.43 -11.95	17.36 -32.15	11.22 5.34	14.61 -14.47	-12.12 +2.52	4 COS 4 SIN	-13.78 23.89	-6.75 39.11	-34.16 -24.08	-4.11 -22.18	-33.53 -25.38	-18.87 9.93
5 COS 5 SIN	4.27 -5.31	3.52 11.68	3.45 -4.93	-1.83 0.85	-0.02 1.47	-9.42 2.70	5 COS 5 SIN	-5.10 4.67	17.32 -35.43	-0.78 -1.80	-10.54 -17.49	-0.21 4.20	-0.49 6.62
6 COS 6 SIN	-2.54 4.94	1.68 -10.20	2.93 -1.02	-18.47 -19.13	8.48 -1.16	-2.43 -4.95	6 COS 6 SIN	-10.40 5.02	14.85 9.29	1.49 -2.44	9.56 -42.02	8.83 -1.82	-5.03 -7.04
7 COS 7 SIN	-5.51 27.86	-17.01 -27.49	0.72 4.48	-31.41 -42.83	-6.54 5.05	4.57 -0.18	7 COS 7 SIN	-4.07 10.50	11.62 -1.73	0.17 1.56	-2.74 -24.34	-3.00 -2.04	-0.28 0.26
8 COS 8 SIN	8.42 14.03	16.93 5.48	-7.69 2.78	-27.35 -5.15	13.52 2.67	10.01 2.41	8 COS 8 SIN	0.78 4.10	7.97 0.23	0.10 -6.14	4.99 -6.10	7.33 -9.33	-8.22 1.23
9 COS 9 SIN	-2.88 2.77	-0.04 -39.05	-1.33 -2.79	16.66 -8.58	8.47 21.15	3.49 3.50	9 COS 9 SIN	8.14 -2.67	-18.42 -7.24	-1.99 1.49	-27.53 -9.10	24.32 -1.05	3.69 -5.03
10 COS 10 SIN	-3.73 -12.78	20.18 -14.89	-8.84 -7.72	44.46 1.80	-2.49 5.00	10.60 7.55	10 COS 10 SIN	-5.57 2.14	5.63 -18.07	-7.92 -5.25	-4.72 -34.44	1.79 -4.08	5.48 0.97
11 COS 11 SIN	3.12 -4.98	12.03 8.06	3.83 -3.12	-8.96 8.56	7.42 -6.17	-4.10 1.56	11 COS 11 SIN	-10.72 -13.87	13.76 5.77	1.11 4.49	17.59 9.16	4.80 4.02	-3.03 -3.61
12 COS 12 SIN	8.32 -7.10	-20.43 19.59	-2.46 1.70	3.79 13.97	-23.13 -22.14	-4.00 -3.90	12 COS 12 SIN	-41.33 -8.17	-7.09 -8.77	4.12 -3.85	-3.47 7.92	47.61 28.63	-2.49 4.89

D121

ORIGINAL PAGE IS  
OF POOR QUALITY

## FFT COEFFICIENTS FOR DATA POINT

358

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HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	FLL1	ACC3	ACCA	ACC5	ACC6
0C	-5.42 0.00	-119.44 0.00	-28.80 0.00	-15.21 0.00	1.95 0.00	-23.19 0.00	0C	-5.74 0.00	-128.98 0.00	-28.61 0.00	-16.12 0.00	1.07 0.00	-23.26 0.00
1 COS 1 SIN	1.53 1.23	2.55 13.13	0.55 0.29	-23.52 -14.22	-0.31 1.73	0.24 -0.91	1 COS 1 SIN	2.02 1.61	-1.10 11.76	-0.65 -0.55	-22.32 -12.28	-0.09 0.65	0.67 -0.97
2 COS 2 SIN	-3.92 -0.05	2.69 8.16	0.50 1.63	4.64 -5.49	0.84 0.72	0.45 0.20	2 COS 2 SIN	-4.12 0.81	-1.47 -24.20	-1.03 1.44	4.63 -9.90	0.92 -1.31	-0.02 0.55
3 COS 3 SIN	-1.16 3.40	3.17 5.10	2.68 -0.16	-2.90 0.68	-0.23 1.60	0.22 -1.30	3 COS 3 SIN	-2.90 3.70	-16.16 -15.48	-1.89 -3.01	-5.35 0.13	-0.04 -0.82	1.54 -1.48
4 COS 4 SIN	-10.47 18.07	-22.52 -9.61	-8.88 -42.08	0.69 -21.22	-17.28 -32.29	-23.69 0.80	4 COS 4 SIN	-11.13 25.06	16.07 -33.46	45.64 -20.61	12.23 -17.17	25.96 -9.72	-5.90 -18.25
5 COS 5 SIN	-5.81 0.44	7.05 0.26	1.04 -2.13	8.30 -25.24	3.55 1.69	-1.21 3.50	5 COS 5 SIN	0.96 -5.14	10.83 -8.26	3.50 -2.89	11.56 2.47	3.98 2.44	-3.40 3.02
6 COS 6 SIN	-5.79 -1.83	3.74 -4.35	-1.91 -2.45	6.77 -26.27	-0.52 -5.41	-7.01 -0.54	6 COS 6 SIN	-12.47 3.24	-28.02 8.98	-4.03 0.72	14.78 -44.42	1.42 -6.65	-0.83 -0.62
7 COS 7 SIN	-12.33 24.23	7.31 -13.23	-0.96 -1.75	-22.06 -57.88	6.76 -7.10	-5.06 0.93	7 COS 7 SIN	-13.52 -20.13	6.26 0.47	-0.88 -1.29	35.53 0.94	2.71 -0.81	-2.68 1.48
8 COS 8 SIN	2.17 -8.96	-0.99 -25.54	-1.00 6.17	13.04 11.02	10.18 -8.14	-0.61 -9.36	8 COS 8 SIN	15.65 28.62	8.34 2.01	-1.65 -10.68	-28.86 -16.81	-8.70 3.19	-3.82 12.78
9 COS 9 SIN	1.56 -1.58	18.56 -4.07	3.05 2.21	-17.27 -11.01	-5.76 -6.27	-2.94 1.14	9 COS 9 SIN	9.86 -1.33	-1.98 2.97	-0.08 -2.08	-34.52 7.70	8.52 20.39	3.81 2.45
10 COS 10 SIN	-0.93 -4.76	-28.02 6.71	-4.34 -6.39	56.11 -8.53	-0.23 7.49	7.60 1.21	10 COS 10 SIN	12.26 -2.74	1.49 -11.10	-2.19 -7.76	-56.14 36.11	-12.88 -2.63	2.68 8.50
11 COS 11 SIN	-4.00 2.22	-8.69 -21.44	2.14 -2.62	-17.25 -3.28	7.77 1.36	0.94 -1.47	11 COS 11 SIN	-5.28 -1.39	-4.58 7.91	4.03 -3.86	0.95 -2.36	11.40 0.19	2.62 1.82
12 COS 12 SIN	-3.22 -22.77	-12.26 12.28	1.99 5.82	-6.48 16.32	-36.51 12.33	-0.40 -5.54	12 COS 12 SIN	-3.35 -1.24	-5.12 11.54	2.83 -2.99	9.79 -5.71	10.01 27.65	-3.54 6.04

D122

ORIGIN OF POOR QUALITY

## FFT COEFFICIENTS FOR DATA POINT

360

## FFT COEFFICIENTS FOR DATA POINT

361

HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
0C 0 SIN	-4.77 0.00	-122.88 0.00	-28.93 0.00	-14.91 0.00	-3.53 0.00	-23.33 0.00	DC	-6.92 0.00	-118.80 0.00	-27.36 0.00	-15.85 0.00	-5.20 0.00	-22.62 0.00
1 COS 1 SIN	2.49 1.38	-10.08 -5.84	0.21 -0.23	-18.69 -14.90	-0.81 0.11	1.25 -1.32	1 COS 1 SIN	0.80 2.14	-12.75 6.71	-0.06 -0.02	-21.70 -13.88	-0.19 0.73	0.86 -1.37
2 COS 2 SIN	-6.86 0.51	-20.30 -22.79	-0.50 0.62	5.64 -11.65	1.31 0.23	-0.12 1.02	2 COS 2 SIN	-6.48 3.34	-2.05 -21.35	-0.43 1.45	-1.09 -10.10	2.65 -3.83	0.79 -0.54
3 COS 3 SIN	-0.74 3.74	-17.57 0.84	-1.94 1.01	-0.02 2.26	0.12 1.66	0.32 -1.37	3 COS 3 SIN	-2.63 2.91	-6.28 3.60	-1.53 1.88	-2.34 -1.73	0.57 1.54	1.32 -0.96
4 COS 4 SIN	-10.31 12.62	8.56 13.10	-2.89 -5.87	-4.98 -25.83	-3.80 -3.71	-2.57 0.90	4 COS 4 SIN	-4.11 -0.55	8.23 0.54	-11.02 6.12	1.90 -8.36	-10.87 -4.02	1.71 -2.10
5 COS 5 SIN	7.01 1.22	4.15 -19.56	4.68 0.47	-13.57 -0.42	-2.96 4.38	-5.34 -0.71	5 COS 5 SIN	-2.20 -8.42	23.78 13.13	5.01 -1.04	16.57 1.55	0.15 5.78	-5.30 1.60
6 COS 6 SIN	-1.54 12.64	20.56 12.17	-0.46 -2.05	-21.21 -42.43	6.57 -6.21	-6.66 -0.52	6 COS 6 SIN	-5.56 -7.16	-30.29 -1.05	-0.85 1.39	35.86 9.43	4.98 5.41	5.05 0.41
7 COS 7 SIN	-17.21 -0.65	-8.77 -3.60	-0.26 1.12	12.88 -28.75	-5.24 -0.36	0.23 1.16	7 COS 7 SIN	-20.13 -6.97	8.91 8.16	0.14 1.14	29.74 -17.47	2.97 7.07	2.18 -4.02
8 COS 8 SIN	-7.09 16.39	-5.64 9.60	0.26 -0.94	-10.98 -24.63	-3.74 -4.24	-2.46 3.19	8 COS 8 SIN	-15.75 -0.42	-4.13 -21.61	3.29 4.47	10.21 -15.59	-4.01 1.77	-1.03 -1.35
9 COS 9 SIN	2.05 -0.07	-0.03 8.52	-3.18 -3.62	10.17 10.37	15.57 1.45	6.51 -1.08	9 COS 9 SIN	0.51 -3.75	-13.11 12.78	-1.07 -2.13	14.25 6.51	7.10 0.62	2.24 0.51
10 COS 10 SIN	-7.43 3.61	6.63 -0.36	-1.76 -5.93	-1.24 9.84	10.14 -3.56	1.52 1.27	10 COS 10 SIN	-8.59 -0.61	-17.60 0.64	-2.16 -5.73	0.90 0.67	8.15 -0.59	2.34 1.45
11 COS 11 SIN	-2.75 1.88	0.78 -19.60	3.65 2.52	-2.74 -10.47	-0.69 1.13	-0.92 -0.92	11 COS 11 SIN	-1.05 -5.41	-4.35 19.62	-1.65 4.50	11.31 11.55	-10.71 -5.29	-0.87 -3.92
12 COS 12 SIN	0.69 3.98	13.04 19.04	1.48 2.57	-13.75 -7.19	-12.91 -3.65	0.97 -6.21	12 COS 12 SIN	-2.39 -8.58	-16.81 9.95	-0.70 0.69	-14.12 -5.45	-1.78 -21.87	-4.07 0.50

D123

OF POC

## FFT COEFFICIENTS FOR DATA POINT

## FFT COEFFICIENTS FOR DATA POINT

362

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HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
DC	-8.27	-138.95	-28.79	-14.58	-2.12	-24.25	DC	-4.91	-125.59	-29.74	-12.28	-8.00	-23.04
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 COS	0.39	-11.62	0.54	-22.64	-0.68	-0.22	1 SIN	-0.50	0.09	-0.47	-19.60	-0.09	0.89
1 SIN	2.08	14.49	0.21	-12.05	1.95	-1.14	1 SIN	0.08	9.16	-0.33	-12.78	0.93	-0.44
2 COS	-6.42	-1.64	-0.66	2.61	3.72	0.69	2 SIN	-7.57	8.66	0.07	13.17	1.58	1.01
2 SIN	2.76	-10.15	-0.60	-7.91	-0.29	0.01	2 SIN	-0.74	-20.08	1.24	-9.68	-0.73	0.38
3 COS	-4.02	-6.89	1.70	-7.75	2.29	-0.54	3 COS	0.76	-9.98	-3.11	5.91	-3.59	0.66
3 SIN	1.99	-2.03	-2.88	-1.15	0.19	-0.84	3 SIN	0.22	-12.74	1.34	4.91	1.85	0.02
4 COS	2.15	2.63	-30.69	11.22	-11.25	-17.68	4 COS	-2.03	8.04	-40.38	2.37	-29.48	5.73
4 SIN	26.23	19.15	-41.17	-21.55	-25.75	10.72	4 SIN	3.54	6.49	24.83	4.70	13.59	26.00
5 COS	-4.91	2.82	-1.07	-1.02	-0.86	-3.38	5 COS	2.46	-7.72	-4.38	-15.29	-2.47	-0.05
5 SIN	-1.19	-0.16	-5.56	-1.03	1.77	6.21	5 SIN	1.30	0.37	-5.69	0.03	1.18	7.37
6 COS	-2.84	9.27	-1.87	-1.74	3.97	-7.38	6 COS	-17.80	-1.28	1.43	15.16	9.79	1.54
6 SIN	3.83	-15.11	-1.66	-1.71	-8.39	1.11	6 SIN	6.14	20.86	2.36	-52.55	0.05	-4.36
7 COS	4.40	15.43	1.02	-0.37	4.42	1.11	7 COS	-6.17	-19.77	-3.35	30.24	-2.28	-1.25
7 SIN	0.92	6.63	-1.07	0.47	4.78	-2.28	7 SIN	-18.49	13.98	-0.05	4.47	-11.43	2.82
8 COS	1.04	-6.24	-1.29	1.33	1.84	-1.77	8 COS	13.81	-9.89	-3.69	-12.45	-7.20	1.68
8 SIN	-7.91	-7.15	1.93	5.47	-10.97	-5.28	8 SIN	4.52	-17.73	-3.38	-8.43	0.90	13.14
9 COS	4.49	-18.40	-2.49	-14.05	13.61	7.64	9 COS	0.60	8.50	-0.83	-13.96	8.41	2.72
9 SIN	3.47	-24.26	-1.68	-26.36	12.88	2.87	9 SIN	-7.75	-12.12	-1.49	41.91	-4.81	-1.96
10 COS	-8.06	13.23	-5.70	31.49	20.15	6.96	10 COS	-2.73	2.51	-7.10	-11.22	8.77	8.55
10 SIN	-4.62	13.63	-4.65	-12.53	-1.05	-2.52	10 SIN	5.29	1.16	-5.95	9.35	-3.42	2.73
11 COS	11.43	-12.96	0.42	-30.10	7.19	-0.68	11 COS	-21.86	-5.21	1.86	2.81	6.13	-3.27
11 SIN	11.53	-0.06	-1.39	11.77	-7.33	4.04	11 SIN	6.98	-5.60	-1.84	-17.17	-4.97	1.55
12 COS	-1.13	-2.39	-1.03	32.47	32.23	3.74	12 COS	-15.64	2.73	-0.64	11.46	-3.00	-8.11
12 SIN	5.47	0.09	-0.66	2.36	5.34	-9.00	12 SIN	31.99	26.11	2.77	4.73	-27.11	-9.59

D124

Q1  
Q2

FFT COEFFICIENTS FOR DATA POINT						FFT COEFFICIENTS FOR DATA POINT							
HARMONIC	ACC1	PLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	PLL1	ACC3	ACC4	ACC5	ACC6
DC	-4.83	-139.41	-28.90	-16.85	-6.98	-23.73	DC	-6.13	-128.43	-29.66	-17.23	2.94	-23.63
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 COS 1 SIN	2.92 1.95	-0.06 2.45	0.15 -0.76	-24.80 -13.99	0.45 3.29	0.61 -1.17	1 COS 1 SIN	1.02 0.54	-30.32 -3.79	-0.08 0.07	-21.39 -13.51	-2.64 0.78	0.66 -0.85
2 COS 2 SIN	-4.27 2.27	-3.16 -17.08	-0.25 -0.11	0.50 -10.08	2.27 -3.38	2.09 -0.05	2 COS 2 SIN	-5.95 2.30	-0.53 2.23	-0.93 0.30	2.25 -9.98	0.73 -2.66	0.10 0.39
3 COS 3 SIN	-1.75 1.10	4.93 -0.13	-0.65 -3.71	-0.20 2.93	0.50 0.48	1.72 -0.14	3 COS 3 SIN	-1.31 4.72	-1.97 10.42	-4.50 -5.38	-6.90 2.22	-1.23 -1.31	0.09 -1.06
4 COS 4 SIN	20.02 4.38	22.44 14.48	-20.71 36.58	-16.06 -9.41	-14.78 17.72	18.29 7.33	4 COS 4 SIN	-1.10 26.01	1.72 5.16	24.44 19.14	-5.65 -38.16	2.32 20.38	-3.16 -2.75
5 COS 5 SIN	9.09 -0.73	-18.89 9.21	2.63 1.03	-19.10 17.80	2.37 7.69	0.82 1.58	5 COS 5 SIN	-1.69 -0.88	17.70 4.85	0.76 0.97	3.27 -12.83	-0.12 6.27	-1.70 5.99
6 COS 6 SIN	10.86 10.82	2.84 -8.10	0.73 -1.09	-50.56 3.61	-3.33 -0.21	-0.65 -1.19	6 COS 6 SIN	-8.36 7.58	-7.73 -7.89	-0.27 -0.83	-5.62 -52.71	1.65 -13.28	-7.41 -4.06
7 COS 7 SIN	-5.70 8.33	-4.07 5.97	2.22 3.65	-12.04 -16.42	-9.00 8.70	4.60 -1.38	7 COS 7 SIN	-16.76 1.51	-5.68 -23.63	-0.02 1.13	13.26 -21.94	1.56 -0.50	1.24 -1.66
8 COS 8 SIN	1.627 -4.12	-3.42 0.61	-3.93 0.05	-11.36 1.60	1.13 2.49	5.04 3.40	8 COS 8 SIN	12.76 7.77	-6.05 6.11	-1.41 -1.85	-17.49 -4.44	1.19 -8.84	-5.95 -0.76
9 COS 9 SIN	-5.56 -6.20	4.05 11.28	3.68 0.51	3.62 28.49	-18.55 -4.26	-5.34 -0.02	9 COS 9 SIN	-1.55 5.32	-11.32 -5.91	0.95 1.78	10.69 -14.53	-11.47 -0.36	-5.84 -1.69
10 COS 10 SIN	0.96 -5.11	9.27 29.04	-2.41 -6.44	21.81 12.68	-17.58 1.36	-1.31 8.17	10 COS 10 SIN	1.63 8.19	-5.32 7.35	-1.40 -8.77	4.41 2.33	-1.10 8.54	-3.02 6.63
11 COS 11 SIN	-21.06 3.75	-7.73 -4.68	0.90 1.43	0.70 -31.99	6.64 9.28	-0.39 -2.44	11 COS 11 SIN	-11.85 22.56	7.71 6.87	2.63 0.28	-19.42 -26.92	5.70 3.53	-3.24 0.51
12 COS 12 SIN	-19.18 -37.38	-7.98 -6.57	3.19 -0.27	-20.99 29.81	5.98 38.82	8.30 2.19	12 COS 12 SIN	-8.43 2.16	-1.77 -13.34	0.28 -2.45	6.17 6.28	15.64 -6.82	-3.57 -2.46

D125

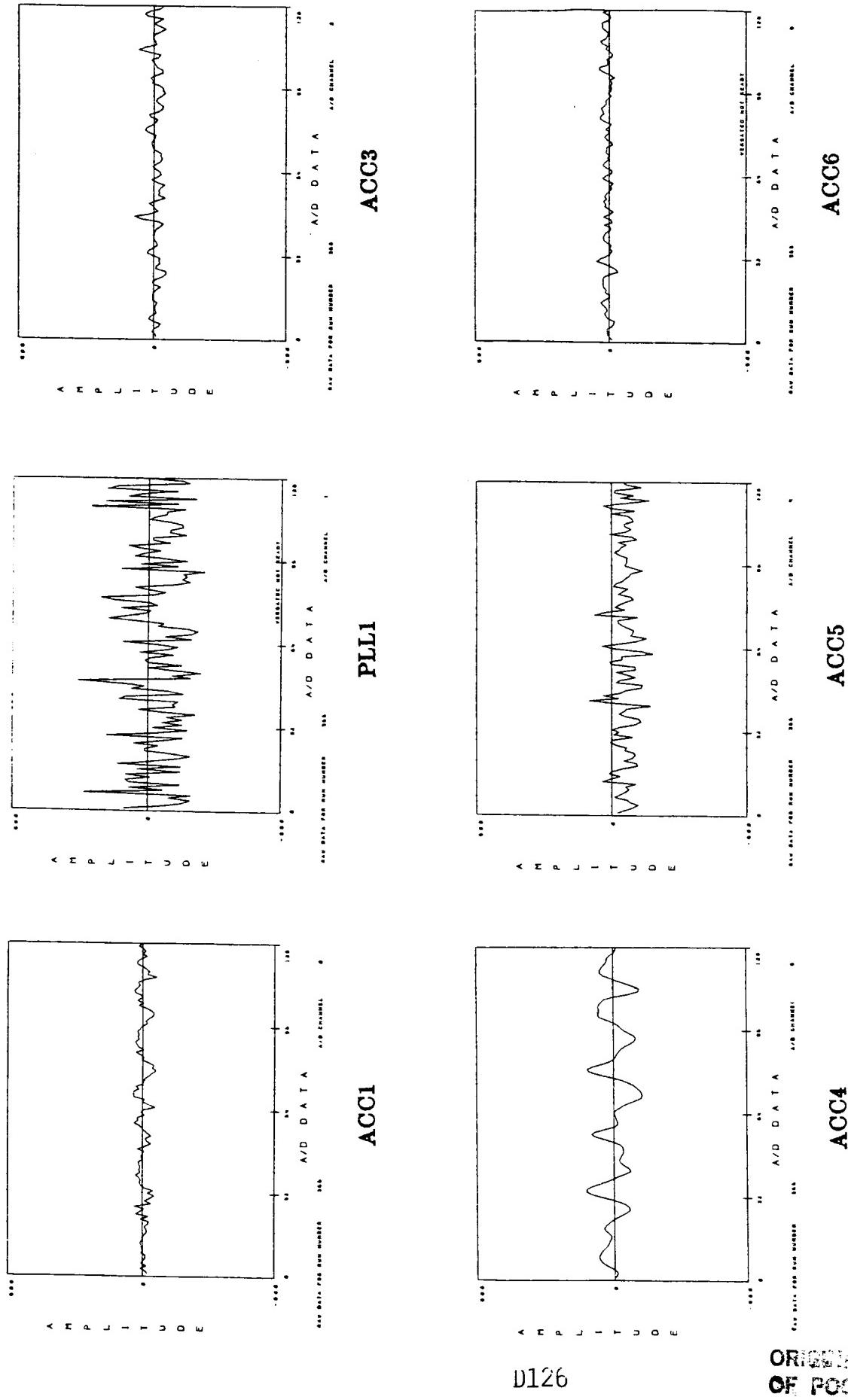


Figure D6

Analog presentation of respiratory response data for data point 366.  
Data window is 1 rotor revolution, with 128 samples/rev.

## FFT COEFFICIENTS FOR DATA POINT 366

HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
DC	-2.89 0.00	4.05 0.00	-0.61 0.00	-233.95 0.00	-21.87 0.00	-2.26 0.00
1 COS 1 SIN	-0.01 0.02	0.01 0.01	-0.04 -0.02	-10.07 -0.39	-0.89 0.07	-0.08 0.01
2 COS 2 SIN	0.07 0.05	0.02 0.02	-0.06 0.04	-10.07 -0.85	-1.06 -0.03	-0.09 -0.04
3 COS 3 SIN	0.05 0.03	0.06 0.02	-0.05 0.01	-10.18 -1.39	-0.96 -0.10	-0.08 -0.02
4 COS 4 SIN	0.01 0.05	-0.50 0.10	-0.27 0.16	-10.27 -1.78	-0.91 -0.17	-0.05 -0.02
5 COS 5 SIN	0.05 0.00	0.00 -0.02	-0.05 0.05	-10.62 -2.42	-0.97 -0.24	-0.12 0.01
6 COS 6 SIN	0.00 -0.02	-0.02 -0.02	-0.01 0.04	-10.92 -3.02	-0.96 -0.37	-0.15 -0.07
7 COS 7 SIN	0.04 -0.03	-0.06 -0.02	0.00 0.08	-11.44 -3.61	-1.04 -0.29	-0.10 -0.05
8 COS 8 SIN	0.02 0.01	-0.07 0.02	-0.01 0.05	-11.98 -4.31	-1.10 -0.40	-0.12 -0.08
9 COS 9 SIN	0.04 -0.03	-0.03 0.01	0.01 0.03	-12.64 -5.16	-1.22 -0.47	-0.11 -0.06
10 COS 10 SIN	0.06 -0.04	0.02 0.02	0.00 0.03	-13.58 -6.29	-1.24 -0.51	-0.12 -0.06
11 COS 11 SIN	0.03 -0.05	-0.01 0.00	0.04 -0.04	-14.72 -7.65	-1.37 -0.78	-0.15 -0.06
12 COS 12 SIN	-0.01 -0.17	0.01 -0.12	0.02 -0.11	-16.44 -9.41	-1.55 -0.87	-0.18 -0.09

DATA POINTS 366 THROUGH 418

Used to Calculate Local Transfer Matrix

Rotor RPM = 550  
 LSE Batch Size = 48  
 Forcing Amplitude Limit  $\pm 1.0^\circ$  Root Pitch

## FFT COEFFICIENTS FOR DATA POINT

367

## FFT COEFFICIENTS FOR DATA POINT

368

HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	
0 NC	-3.89 0.00	-64.54 0.00	-15.31 0.00	-1.69 0.00	-92.41 0.00	14.96 0.00	NC	-4.35 0.00	-81.48 0.00	-16.73 0.00	-0.23 0.00	-91.37 0.00	14.88 0.00	
1 COS	-0.98 1 SIN	4.20 0.41	0.76 -0.41	17.74 -9.07	0.47 0.68	0.79 0.68	1 COS	-1.23 1 SIN	-0.58 0.07	0.16 -1.34	0.05 0.05	20.78 -7.46	-0.24 -0.97	0.52 0.54
2 COS	0.33 2 SIN	11.99 -10.71	0.73 1.06	-1.00 0.12	-1.76 -3.68	-1.00 -1.37	2 COS	-3.67 2 SIN	-2.57 14.22	0.53 1.18	0.86 -1.87	-1.17 -3.14	-0.26 -1.30	
3 COS	1.24 3 SIN	11.79 3.61	4.08 3.25	4.02 -5.96	2.44 1.51	0.25 1.48	3 COS	3 COS 3 SIN	3.27 -0.47	-9.37 7.12	3.04 3.61	-3.49 -1.62	-0.84 0.53	-0.23 0.94
4 COS	1.56 4 SIN	-23.73 -6.05	-8.32 -7.35	-2.70 1.67	-7.55 -2.94	-3.23 3.65	4 COS	13.81 4 SIN	-0.83 1.09	8.92 -23.46	-13.02 -3.33	6.18 0.83	-1.27 7.00	-1.27 1.00
5 COS	-8.49 5 SIN	19.64 14.79	2.05 -3.21	8.72 -25.57	2.66 -2.15	-3.72 0.32	5 COS	-6.51 5 SIN	-7.11 32.97	-2.03 -3.72	16.67 -2.88	0.58 2.75	-0.68 2.75	-0.68 5.89
6 COS	7.43 6 SIN	-21.45 -4.74	0.12 17.29	-13.18 1.53	-5.32 40.21	1.32 4.62	6 COS	-2.04 6 SIN	4.03 -9.94	-0.77 5.78	24.16 1.64	2.25 33.10	7.56 7.56	7.59 3.23
7 COS	6.62 7 SIN	-31.94 3.71	-0.92 -19.54	-15.84 1.34	-9.59 4.10	0.90 -0.77	7 COS	-0.66 7 SIN	11.15 20.21	0.54 1.07	-30.91 -28.08	-2.22 -0.62	1.38 0.72	
8 COS	-11.19 8 SIN	2.24 -4.41	18.06 18.06	1.21 2.26	-0.99 -17.53	-3.33 12.49	8 COS	2.97 8 SIN	13.24 6.12	-3.49 -7.61	-8.37 -3.22	6.15 -8.39	-5.17 -7.22	-5.17 7.01
9 COS	0.49 9 SIN	5.75 -0.59	-2.16 -1.11	-16.38 -10.68	12.93 -7.84	0.20 -1.56	9 COS	5.06 9 SIN	6.59 4.21	-0.04 10.41	-11.48 -2.04	-4.27 -2.33	2.60 13.24	2.60 4.95
10 COS	-5.37 10 SIN	-2.48 16.63	-4.57 6.28	-3.37 -6.30	5.86 -3.29	2.45 -2.10	10 COS	-7.47 10 SIN	-4.92 -3.36	-2.95 -6.66	24.92 10.66	-3.28 1.50	2.72 5.97	2.72 -7.95
11 COS	8.09 11 SIN	6.55 -8.78	-3.12 1.12	6.36 15.81	-7.63 2.67	0.13 2.63	11 COS	14.97 11 SIN	-17.11 -5.64	2.56 -13.48	0.10 0.10	-0.39 25.00	-0.15 -0.55	-0.15 2.61
12 COS	-3.19 12 SIN	-9.07 -12.07	-2.47 -0.85	9.56 -6.01	5.19 -7.73	3.77 1.87	12 COS	15.11 12 SIN	-1.76 15.74	0.32 0.97	8.59 -11.54	-6.11 -17.27	0.19 -0.12	0.19 -0.12

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ORIGINAL PAGE IS  
OF POOR QUALITY

## FFT COEFFICIENTS FOR DATA POINT 369

## FFT COEFFICIENTS FOR DATA POINT 370

HARMONIC	ACC1	PLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	PLL1	ACC3	ACC4	ACC5	ACC6
DC	-6.36 0.00	-71.90 0.00	-18.27 0.00	-0.05 0.00	-92.03 0.00	15.13 0.00	DC	-6.69 0.00	-99.47 0.00	-15.91 0.00	-0.27 0.00	-92.41 0.00	14.84 0.00
1 COS 1 SIN	-2.85 -0.30	-22.02 17.38	-0.55 0.66	19.85 -9.27	0.14 -1.28	0.32 1.63	1 COS 1 SIN	-1.23 -0.41	-14.46 1.23	-0.59 0.36	19.75 -6.74	0.71 -1.29	-0.29 0.83
2 COS 2 SIN	-2.68 -1.27	5.47 6.43	-0.22 -0.42	3.23 0.44	-3.89 -1.40	-1.45 -1.02	2 COS 2 SIN	-3.99 4.19	-9.18 6.80	-0.74 0.39	-1.21 -3.92	1.89 -2.11	-0.44 -0.42
3 COS 3 SIN	0.66 -1.45	-3.59 -3.60	-0.87 4.06	1.58 -3.45	0.99 3.02	2.19 2.90	3 COS 3 SIN	1.68 -3.91	-7.01 -14.03	2.82 -3.17	-3.42 2.25	1.24 -0.91	-0.98 2.01
4 COS 4 SIN	3.93 -13.73	-9.37 -10.01	-4.43 -8.55	1.81 11.59	-0.83 -4.90	-0.99 2.40	4 COS 4 SIN	2.02 4 SIN	-11.62 -15.41	-6.68 0.17	-4.68 3.94	-7.60 -4.79	-0.57 -0.17
5 COS 5 SIN	-3.76 1.92	13.95 -18.73	-0.68 -2.20	-4.88 -15.09	3.35 2.65	0.37 5.35	5 COS 5 SIN	1.34 -3.72	7.27 -2.68	2.24 -2.88	-7.14 12.68	7.62 3.41	1.34 0.32
6 COS 6 SIN	-4.83 1.28	-3.51 13.82	3.40 1.13	16.66 -7.75	8.56 2.26	2.18 -6.89	6 COS 6 SIN	-18.14 3.76	11.73 5.35	-6.45 -1.04	43.86 -58.66	6.69 -12.38	-2.58 -6.03
7 COS 7 SIN	10.91 -9.78	9.93 -3.63	-0.65 -0.52	2.98 28.05	-3.96 -1.16	2.04 1.05	7 COS 7 SIN	14.31 -3.77	16.67 5.62	1.22 -2.34	-6.68 27.14	6.81 3.16	-1.13 -4.06
8 COS 8 SIN	-9.76 7.32	-11.04 12.48	8.57 -1.20	-5.02 -2.35	-3.17 2.67	-4.37 -1.57	8 COS 8 SIN	0.08 -1.16	1.71 -11.51	5.01 -6.54	3.87 5.57	-0.48 -3.60	-5.96 5.46
9 COS 9 SIN	-2.68 -8.79	-3.84 13.83	-0.77 2.42	15.81 6.58	2.45 -10.48	3.23 -3.26	9 COS 9 SIN	0.78 -5.39	2.43 -7.38	2.72 0.36	-1.84 21.51	-14.52 -0.35	-5.38 2.23
10 COS 10 SIN	11.35 1.99	16.49 0.80	-3.07 9.38	-45.64 4.08	-1.18 -6.30	3.23 -6.25	10 COS 10 SIN	8.46 -7.30	13.61 -25.54	-3.85 6.78	3.27 23.80	-5.45 15.18	3.49 -2.05
11 COS 11 SIN	-5.28 -1.12	-12.83 11.66	-2.36 -2.09	-4.14 -4.14	-7.75 0.50	-0.82 3.28	11 COS 11 SIN	0.03 8.98	9.77 22.02	-3.22 0.49	-7.02 -15.58	3.38 -1.58	0.93 0.94
12 COS 12 SIN	-15.72 -3.45	3.15 -0.63	-1.41 1.20	-5.62 8.71	-15.48 -15.05	0.25 -1.30	12 COS 12 SIN	-24.94 9.74	-11.69 12.36	1.76 -0.95	3.60 12.53	3.71 -4.45	-5.54 -5.25

D129

## FFT COEFFICIENTS FOR DATA POINT

371

## FFT COEFFICIENTS FOR DATA POINT

372

HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
DC	-3.30 0.00	-61.55 0.00	-16.67 0.00	-1.39 0.00	-93.83 0.00	14.18 0.00	DC	-4.44 0.00	-83.24 0.00	-17.29 0.00	1.18 0.00	-93.35 0.00	14.48 0.00
1 COS 1 SIN	-1.26 -0.64	-22.76 12.35	-0.64 0.28	18.60 -9.80	-0.21 -1.44	0.28 0.61	1 COS 1 SIN	-0.37 0.83	16.63 6.69	-0.24 0.50	21.97 -7.00	-0.69 -1.18	0.28 0.48
2 COS 2 SIN	-1.87 -0.80	-7.04 -5.35	-0.71 0.77	3.06 -2.68	-2.48 0.58	-1.65 0.79	2 COS 2 SIN	1.32 2.92	3.15 -15.01	-0.95 -1.22	-1.11 -0.44	-0.59 -1.93	-0.50 -0.70
3 COS 3 SIN	1.75 0.01	13.48 5.37	-4.36 -0.12	-0.13 -0.97	0.41 0.01	0.58 2.74	3 COS 3 SIN	4.23 -1.03	-8.37 -7.55	0.54 -3.52	-4.84 -3.83	-0.40 -0.80	-0.54 -1.67
4 COS 4 SIN	-7.26 -4.57	-2.71 21.65	-15.63 1.84	8.88 7.55	-12.0. 1.1.C	1.46 5.92	4 COS 4 SIN	-12.64 -7.44	-3.03 3.28	4.14 18.54	9.53 3.64	-7.71 9.52	1.56 -4.71
5 COS 5 SIN	1.69 -2.11	21.50 -15.18	3.10 -3.16	-14.26 -2.30	4.3. -1.7.	-2.17 -0.79	5 COS 5 SIN	-0.90 -5.85	-4.37 18.66	-1.37 -1.42	6.54 9.79	4.88 0.41	2.57 5.32
6 COS 6 SIN	-1.41 2.26	23.00 -29.26	-1.92 -0.90	4.47 -3.34	2.8. -5.2.	-2.47 0.47	6 COS 6 SIN	-2.57 14.82	7.60 -2.55	1.51 1.13	-33.36 -43.81	-1.28 -3.50	-3.36 -4.55
7 COS 7 SIN	-17.48 -1.12	36.32 -17.71	2.05 3.15	9.80 -24.90	-5.4. 6.67	4.28 0.10	7 COS 7 SIN	-1.61 -12.52	-3.38 -12.55	-0.53 -2.10	18.20 19.56	2.08 -5.12	-4.40 0.28
8 COS 8 SIN	9.35 2.86	-17.72 -11.81	-4.81 -7.90	-1.63 5.90	3.5. -1.52	-1.16 7.16	8 COS 8 SIN	-5.02 -20.65	-7.02 -15.12	-2.09 12.23	12.49 14.80	-8.25 -3.17	7.41 -9.70
9 COS 9 SIN	0.38 1.78	4.89 10.36	1.30 1.06	7.66 -7.13	-13.29 1.18	-2.11 1.81	9 COS 9 SIN	1.80 -3.65	-5.20 -29.70	-1.66 0.06	-1.69 10.72	18.27 -8.88	3.52 -2.87
10 COS 10 SIN	-4.88 -5.41	-7.39 -13.06	-0.70 6.80	13.51 8.34	-2.84 6.36	-2.49 -3.64	10 COS 10 SIN	2.65 1.93	-23.36 2.84	-2.95 7.42	-18.70 -35.56	1.43 4.16	-0.58 -1.00
11 COS 11 SIN	1.60 -9.74	6.77 7.99	0.44 3.04	13.87 16.81	3.53 1.12	0.55 -0.05	11 COS 11 SIN	-4.59 -8.30	-13.98 -0.02	2.57 0.44	12.62 -7.77	3.84 -1.43	-2.61 -1.93
12 COS 12 SIN	5.68 15.65	-4.28 -4.89	-1.22 3.40	9.64 9.57	-8.97 -6.36	2.38 -0.90	12 COS 12 SIN	14.38 -0.90	13.58 39.86	0.33 0.95	4.79 5.02	7.85 -2.08	1.11 -8.22

D130

## FFT COEFFICIENTS FOR DATA POINT

373

## FFT COEFFICIENTS FOR DATA POINT

374

HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
RC	-5.55 0.00	-64.30 0.00	-16.49 0.00	-0.52 0.00	-93.46 0.00	14.29 0.00	DC	-5.77 0.00	-105.48 0.00	-17.29 0.00	-1.67 0.00	-93.67 0.00	14.77 0.00
1 COS 1 SIN	-1.81 -0.04	12.32 6.82	-1.31 0.55	16.72 -9.69	-0.60 -1.19	0.25 0.82	1 COS 1 SIN	0.01 1.26	-11.43 -6.99	0.43 0.56	20.58 -10.53	-0.21 -1.70	0.64 -0.05
2 COS 2 SIN	-5.75 5.36	17.55 -5.87	-2.18 -0.09	-2.46 -4.41	0.89 -2.69	0.16 -0.52	2 COS 2 SIN	-1.64 2.65	-3.07 -3.51	-0.42 0.33	-0.41 -1.95	-1.02 -3.42	0.06 -1.42
3 COS 3 SIN	0.81 -2.86	10.11 -15.91	-4.94 -0.80	3.43 3.36	-1.29 0.43	-0.31 2.97	3 COS 3 SIN	5.04 -0.71	6.99 -9.94	-0.36 3.94	1.88 1.39	0.02 2.06	0.65 2.06
4 COS 4 SIN	-2.85 10.56	15.76 2.38	-0.33 -3.58	-3.83 -24.04	-2.14 -3.47	-1.24 -0.29	4 COS 4 SIN	0.32 -7.41	-6.47 14.99	3.27 8.62	0.77 7.48	-6.13 9.19	-0.55 -0.98
5 COS 5 SIN	-2.46 -11.59	-11.71 17.60	2.62 -0.84	19.19 17.45	4.46 1.51	-2.39 1.48	5 COS 5 SIN	-5.01 -1.75	-16.82 20.49	2.56 -3.20	2.70 -8.12	5.23 0.22	-0.55 1.59
6 COS 6 SIN	4.95 4.30	-10.05 11.05	0.43 -0.30	-17.30 -7.36	-3.79 -4.70	-2.55 0.91	6 COS 6 SIN	3.43 8.29	11.02 27.42	1.54 -3.32	-38.06 -10.42	-0.57 -0.56	-6.13 -1.65
7 COS 7 SIN	-8.28 -2.07	14.34 -10.82	1.15 0.79	9.23 -9.86	-1.36 1.38	-0.56 -1.79	7 COS 7 SIN	-1.94 -11.75	14.82 -7.88	-3.93 -1.36	18.92 10.87	-4.36 -6.38	-1.77 8.55
8 COS 8 SIN	-0.01 3.33	-24.86 7.88	-0.56 -0.64	-5.22 -4.64	-1.06 -2.33	0.37 4.73	8 COS 8 SIN	-2.56 -8.67	-13.35 10.79	4.59 4.88	12.60 5.72	0.42 2.87	-4.81 -9.09
9 COS 9 SIN	0.84 -6.70	-12.97 18.50	1.40 0.01	-11.47 16.83	-11.13 3.30	0.46 3.15	9 COS 9 SIN	-9.34 4.74	21.95 -12.35	-2.76 -0.72	20.61 -18.57	7.35 1.41	2.77 -0.44
10 COS 10 SIN	7.78 0.53	0.95 -15.63	-3.58 7.40	-30.34 -8.28	4.21 -2.54	2.44 -3.50	10 COS 10 SIN	-1.67 -4.91	-14.38 -4.73	-2.22 10.19	-26.42 -7.27	-11.87 0.82	1.29 -4.16
11 COS 11 SIN	-8.69 -1.83	1.70 18.54	-3.99 -3.06	13.79 -17.26	1.24 2.30	2.59 3.28	11 COS 11 SIN	6.04 4.11	-37.06 14.89	-0.54 -4.40	-8.63 9.42	-1.86 -3.35	-2.31 4.78
12 COS 12 SIN	-1.35 -19.53	-3.37 1.31	1.45 3.03	0.84 2.25	-3.62 10.60	3.41 -2.18	12 COS 12 SIN	-0.33 -10.79	-3.60 -14.41	-2.74 -0.44	5.25 3.47	-0.66 -31.27	0.10 -0.04

D131

## FFT COEFFICIENTS FOR DATA POINT

## FFT COEFFICIENTS FOR DATA POINT

375

HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
DC	-7.10 0.00	-66.81 0.00	-16.37 0.00	-0.41 0.00	-94.87 0.00	14.98 0.00	DC	-4.75 0.00	-52.64 0.00	-17.45 0.00	-0.41 0.00	-93.29 0.00	15.42 0.00
1 COS 1 SIN	-1.28 0.52	-19.72 10.72	-0.66 -0.10	20.22 -7.98	-0.82 -1.39	0.64 0.52	1 COS 1 SIN	-0.90 -0.29	9.38 11.17	-1.03 -0.49	18.60 -8.84	-0.95 -0.98	0.30 0.67
2 COS 2 SIN	-2.34 3.84	-0.58 -0.10	-0.45 0.89	-1.12 -3.90	-2.36 -1.51	-0.05 -0.24	2 COS 2 SIN	-1.49 0.36	4.60 9.24	-0.57 1.39	1.49 -4.30	-2.50 -1.04	-0.46 -0.44
3 COS 3 SIN	2.88 -1.41	-1.07 6.86	-3.72 2.99	-2.78 1.78	-2.38 1.95	0.69 2.41	3 COS 3 SIN	-4.05 -1.81	-0.73 -18.29	-2.80 4.19	-0.10 0.70	0.51 1.92	1.49 2.30
4 COS 4 SIN	0.46 -13.68	-26.50 -22.10	5.77 -6.60	-1.68 12.96	2.47 -5.04	-2.47 -3.70	4 COS 4 SIN	-14.99 2.81	1.28 8.31	-3.85 6.15	21.16 -10.39	-8.71 0.09	1.19 -1.05
5 COS 5 SIN	-2.69 -4.55	-22.16 8.19	1.29 -0.77	-0.71 5.49	3.89 3.94	3.06 3.70	5 COS 5 SIN	2.40 -1.07	-16.98 13.86	2.32 -2.06	-13.97 6.63	4.51 -0.94	-0.34 0.09
6 COS 6 SIN	-13.91 4.84	-15.93 -2.69	5.01 -3.92	28.70 -43.06	8.28 1.13	-3.90 -7.86	6 COS 6 SIN	4.25 4.56	10.87 -6.94	-3.00 -0.50	-21.35 -13.46	-6.10 -11.23	-5.66 2.65
7 COS 7 SIN	1.09 7.46	-19.80 -7.37	2.47 -1.19	-14.51 5.03	4.40 4.51	1.57 -5.58	7 COS 7 SIN	-4.17 -5.23	-1.21 0.03	0.56 -0.99	14.95 -0.09	0.25 -1.33	-0.69 -0.55
8 COS 8 SIN	1.42 1.53	13.04 6.49	2.31 -1.31	-8.69 14.84	-5.85 -3.24	2.56 2.60	8 COS 8 SIN	-7.74 -5.40	2.33 -7.98	1.80 7.56	-1.94 -3.91	-7.99 1.90	6.70 -3.96
9 COS 9 SIN	0.70 -1.95	-0.56 -18.27	0.19 0.75	19.28 2.98	2.75 -6.01	1.17 -1.73	9 COS 9 SIN	6.95 -3.18	15.75 9.04	-1.06 -1.86	-30.78 12.27	11.05 1.25	1.68 -0.13
10 COS 10 SIN	8.19 0.37	-6.10 13.89	-3.07 7.71	-22.93 2.56	-6.31 -2.76	4.61 -2.13	10 COS 10 SIN	3.40 -2.00	-14.01 -2.85	-2.24 6.92	-8.09 -3.98	2.09 2.40	2.73 -3.52
11 COS 11 SIN	-5.55 3.45	-7.75 2.32	-2.86 -1.30	-2.33 -7.27	0.56 -2.54	1.44 0.47	11 COS 11 SIN	-6.88 -15.01	-10.65 14.00	-2.84 1.56	15.95 -5.64	-11.41 0.24	1.18 -1.67
12 COS 12 SIN	-26.30 16.99	4.83 -4.67	-0.41 -2.25	10.90 -11.03	2.48 -0.78	3.98 -0.78	12 COS 12 SIN	-3.53 -17.18	-9.28 -7.91	-0.46 0.42	-2.16 5.70	-19.69 4.31	-1.65 -3.31

D132

## FFT COEFFICIENTS FOR DATA POINT

377

## FFT COEFFICIENTS FOR DATA POINT

378

HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
DC	-3.70 0.00	-68.63 0.00	-17.80 0.00	1.02 0.00	-93.98 0.00	14.30 0.00	DC	-6.80 0.00	-77.95 0.00	-18.34 0.00	0.06 0.00	-94.02 0.00	14.34 0.00
1 COS 1 SIN	0.67 1.12	-5.85 -11.78	0.20 -0.59	20.42 -8.33	-0.17 -0.85	0.15 0.42	1 COS 1 SIN	-2.68 -0.68	-3.54 -5.86	-0.48 -0.26	19.75 -8.17	0.09 -0.79	0.69 0.88
2 COS 2 SIN	-1.55 -0.47	7.13 19.24	-0.61 -1.80	3.41 -0.71	-2.74 -0.56	-1.35 -0.73	2 COS 2 SIN	-7.16 2.13	21.46 -2.08	-2.03 0.09	-0.13 -8.63	0.11 -0.32	-0.47 0.16
3 COS 3 SIN	1.73 -0.22	-4.54 -3.56	-3.39 -2.75	-1.37 -4.28	0.17 -0.25	0.49 2.34	3 COS 3 SIN	3.58 0.65	14.19 11.36	-2.91 -1.60	-7.35 3.72	-0.67 -1.67	-1.43 2.73
4 COS 4 SIN	-15.34 -1.56	5.93 24.55	-1.75 5.43	9.51 -5.34	-8.16 4.62	-1.87 1.65	4 COS 4 SIN	6.15 9.69	8.64 -11.09	4.58 16.06	-3.04 -10.28	0.86 13.94	5.88 -0.39
5 COS 5 SIN	-3.31 -0.92	-15.78 25.75	3.43 -2.01	-0.76 -13.06	3.45 -1.66	-3.64 0.12	5 COS 5 SIN	1.05 -4.30	26.88 23.87	-1.10 -3.40	-4.41 12.34	1.86 3.00	-0.42 7.69
6 COS 6 SIN	12.42 15.85	-1.27 -18.48	-1.63 2.56	-63.20 -8.15	-5.85 -6.62	-3.04 4.24	6 COS 6 SIN	-2.75 -14.62	9.89 -12.55	-0.03 1.48	26.31 17.03	-4.13 4.77	2.66 0.84
7 COS 7 SIN	4.21 -0.60	-14.47 11.24	-0.53 1.05	-2.13 5.70	-6.80 -7.25	-1.78 5.25	7 COS 7 SIN	1.34 -0.87	-10.28 21.06	2.28 -0.22	-2.57 -2.71	3.54 1.39	-1.05 -2.86
8 COS 8 SIN	3.21 -11.24	12.75 -15.05	-1.72 12.10	4.16 1.94	-5.89 4.18	3.01 -10.07	8 COS 8 SIN	2.78 15.54	-6.10 -6.45	1.40 1.30	-12.61 -3.37	4.15 -6.97	-5.71 -3.52
9 COS 9 SIN	-6.23 -4.46	13.20 -6.11	-1.14 0.48	0.62 1.62	13.41 -0.55	3.33 -2.66	9 COS 9 SIN	-2.67 0.37	-9.79 -13.30	-2.09 1.36	30.61 4.29	3.02 -5.50	0.00 -1.88
10 COS 10 SIN	0.52 7.02	18.10 -3.55	-0.81 7.61	-30.59 -4.11	-6.17 -0.74	-1.02 -2.61	10 COS 10 SIN	3.22 -0.53	-2.09 13.31	-0.94 7.50	-19.55 -13.56	1.70 0.97	0.74 -6.03
11 COS 11 SIN	-9.14 -19.97	-1.43 -5.08	4.54 1.68	27.48 11.14	3.19 12.42	-3.60 -2.63	11 COS 11 SIN	19.91 -2.36	18.60 -16.65	-1.21 2.96	-13.46 23.54	-3.31 -0.19	0.78 -0.61
12 COS 12 SIN	-28.02 -24.94	17.22 16.10	-2.28 1.24	6.90 1.72	4.28 -19.87	6.90 -2.85	12 COS 12 SIN	-24.22 5.26	-3.58 11.02	0.23 -1.55	-4.03 -11.69	9.66 -12.32	2.03 1.82

D133

## FFT COEFFICIENTS FOR DATA POINT

## FFT COEFFICIENTS FOR DATA POINT

379

	HARMONIC	ACC1	PLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	PLL1	ACC3	ACC4	ACC5	ACC6
DC	-6.03 0.00	-99.13 0.00	-17.87 0.00	0.08 0.00	-95.09 0.00	14.46 0.00	14.46 0.00	DC	-5.44 0.00	-95.30 0.00	-17.05 0.00	-4.63 0.00	-95.11 0.00	14.54 0.00
1 COS 1 SIN	-0.80 -0.58	20.91 17.03	0.31 -0.86	19.36 -9.56	-0.61 0.38	0.03 -0.96	1 COS 1 SIN	-1.15 -0.44	5.54 -11.70	-0.72 -0.31	16.44 -8.28	-0.02 -1.50	-0.02 -1.50	-0.17 0.94
2 COS 2 SIN	0.58 5.22	14.60 -28.24	0.29 -0.58	-1.98 -3.02	-2.00 -3.18	-1.04 -0.71	2 COS 2 SIN	-0.63 3.55	28.97 -13.60	0.85 -0.31	-1.99 -1.72	-2.85 -3.11	-1.28 -1.08	-1.28 -1.08
3 COS 3 SIN	2.81 -2.28	-10.14 -3.01	-1.39 -2.91	5.63 1.33	-0.20 0.36	-1.48 2.39	3 COS 3 SIN	0.61 -3.30	12.95 -10.83	0.74 -3.84	-3.30 0.16	1.41 0.43	-0.07 -0.43	-0.07 -0.43
4 COS 4 SIN	-1.10 10.69	17.98 -8.51	-5.81 -7.76	-8.01 -14.62	-6.58 -6.88	-3.70 3.72	4 COS 4 SIN	-3.99 -12.01	16.39 -2.21	-7.14 12.40	7.49 17.47	-9.83 10.47	3.89 2.55	3.89 2.55
5 COS 5 SIN	-4.81 -8.25	10.92 6.34	2.64 -1.17	16.86 -6.64	4.92 -2.34	-2.39 1.72	5 COS 5 SIN	-2.59 3.48	9.51 5.66	-0.30 -0.86	-15.50 -10.92	2.45 4.16	-0.02 6.45	-0.02 6.45
6 COS 6 SIN	7.39 -0.75	-10.55 5.86	0.15 4.07	-18.65 23.21	-5.25 2.40	4.05 1.73	6 COS 6 SIN	0.93 -5.00	-18.08 12.16	1.38 -4.09	11.06 7.58	6.74 -2.01	-5.84 -2.55	-5.84 -2.55
7 COS 7 SIN	-1.03 -3.65	-8.06 0.87	-1.69 0.15	2.62 -1.60	-4.98 -1.94	0.12 3.10	7 COS 7 SIN	7.97 -11.75	20.77 14.90	-1.99 0.30	15.05 24.44	-4.64 -1.17	-0.04 -0.43	-0.04 -0.43
8 COS 8 SIN	0.07 -3.06	-5.58 4.84	1.35 2.98	-1.67 -3.01	-2.62 2.38	-0.92 -2.53	8 COS 8 SIN	10.60 0.87	5.13 26.69	-2.98 -3.24	-0.26 15.04	3.40 -0.69	2.33 -0.09	2.33 -0.09
9 COS 9 SIN	-9.98 -0.59	16.96 -3.88	0.94 -1.85	18.46 -0.04	12.41 12.47	3.85 0.63	9 COS 9 SIN	0.06 -8.10	-16.75 -5.08	4.09 -1.03	-12.03 16.37	-16.15 5.56	-3.72 1.43	-3.72 1.43
10 COS 10 SIN	0.39 0.21	-6.68 16.94	-4.67 5.92	-29.40 7.48	7.38 -8.49	3.82 -2.62	10 COS 10 SIN	8.14 1.06	14.63 -4.94	-1.43 10.16	-14.55 -15.60	-8.85 3.14	-2.18 -5.48	-2.18 -5.48
11 COS 11 SIN	-3.68 13.97	11.33 -1.40	-2.94 3.18	-13.64 -14.08	-2.35 -3.81	0.96 -1.68	11 COS 11 SIN	1.64 0.79	17.74 -26.19	-1.62 3.00	1.37 -7.64	0.51 7.18	1.56 -2.19	1.56 -2.19
12 COS 12 SIN	-6.67 5.10	5.43 2.35	0.79 -2.98	23.13 3.12	13.69 0.74	-2.09 6.72	12 COS 12 SIN	-0.17 -2.90	8.00 -9.09	-1.71 -2.05	4.86 2.34	13.62 0.75	2.61 7.34	2.61 7.34

D134

## FFT COEFFICIENTS FOR DATA POINT 381

## FFT COEFFICIENTS FOR DATA POINT 382

HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
DC	-5.42 0.00	-96.48 0.00	-17.13 0.00	-3.16 0.00	-94.27 0.00	14.63 0.00	DC	-5.37 0.00	-92.30 0.00	-17.61 0.00	-2.02 0.00	-94.23 0.00	13.50 0.00
1 COS 1 SIN	0.08 -1.25	2.53 10.11	-1.14 -0.53	21.50 -7.81	0.19 -1.50	0.41 0.76	1 COS 1 SIN	-0.58 -0.12	5.48 12.37	-0.85 0.36	18.79 -8.79	-0.13 -0.74	-0.49 0.58
2 COS 2 SIN	-0.24 -0.63	7.98 19.35	-1.52 0.66	1.51 -0.97	-1.47 -1.35	-0.95 -0.32	2 COS 2 SIN	0.02 4.85	10.20 -21.33	-0.48 0.65	-2.21 -0.69	-2.17 -4.49	-0.51 -1.44
3 COS 3 SIN	6.68 -2.41	0.71 -3.10	-4.91 1.02	-1.26 6.25	-2.75 1.44	-0.80 2.54	3 COS 3 SIN	2.50 -1.59	-8.07 6.52	-1.52 3.53	2.97 -2.36	0.05 3.10	1.07 2.75
4 COS 4 SIN	-11.13 2.33	-4.04 -21.35	14.39 -10.16	5.55 -7.13	7.44 -0.16	-6.80 -1.85	4 COS 4 SIN	4.26 -2.97	21.55 -29.08	-7.39 -3.12	-7.38 8.01	-7.46 -2.60	-1.57 3.33
5 COS 5 SIN	-0.57 -9.09	-6.66 3.83	-0.07 -1.26	10.49 10.57	4.59 3.16	1.62 4.23	5 COS 5 SIN	-7.96 0.44	29.69 -3.46	-0.32 -4.25	1.30 -19.93	2.05 1.39	-2.92 4.54
6 COS 6 SIN	6.97 2.52	4.52 -8.55	0.54 0.49	-12.53 8.00	1.00 0.76	0.33 2.36	6 COS 6 SIN	2.80 -1.18	-8.67 24.52	3.87 -1.75	2.61 16.01	5.37 3.67	-2.07 -2.83
7 COS 7 SIN	-5.20 15.70	-6.95 -20.30	0.59 0.98	-20.83 -30.55	2.00 -0.43	1.58 -2.66	7 COS 7 SIN	1.71 4.34	14.24 -37.48	-1.34 -0.27	-12.24 -2.72	-0.26 -4.13	-1.16 2.77
8 COS 8 SIN	-5.22 6.58	-13.24 0.62	-2.45 -5.95	-3.19 -16.24	-3.78 7.54	3.78 7.97	8 COS 8 SIN	-6.92 4.27	9.11 -23.57	4.86 2.69	-1.43 -4.44	-0.37 2.42	-0.36 -0.94
9 COS 9 SIN	4.04 7.83	7.48 1.40	2.35 -2.60	-12.80 2.39	-10.83 12.13	-0.91 5.92	9 COS 9 SIN	9.49 1.57	4.48 -7.86	-2.01 1.65	-8.49 1.31	4.28 -7.61	2.17 -1.73
10 COS 10 SIN	-0.87 -3.64	18.57 -7.34	-2.27 5.27	15.45 3.19	9.04 -0.21	0.19 -2.86	10 COS 10 SIN	-2.27 5.02	12.14 6.17	-3.57 8.00	3.45 -10.15	1.89 -2.57	1.62 -5.14
11 COS 11 SIN	3.91 2.54	1.38 21.18	-3.10 -2.73	-2.87 2.71	-1.50 -0.54	4.20 1.47	11 COS 11 SIN	1.78 -7.06	-15.60 -5.03	0.62 -4.38	7.01 5.86	-0.39 -2.93	-0.65 3.13
12 COS 12 SIN	-10.36 -8.83	-14.40 15.37	-1.01 0.20	-6.47 -10.55	5.92 -13.75	0.40 -1.76	12 COS 12 SIN	-1.44 -3.16	21.32 -4.29	-1.07 2.31	-3.12 -2.67	-16.93 -2.63	1.71 -2.30

D135

FFT COEFFICIENTS FOR DATA POINT						FFT COEFFICIENTS FOR DATA POINT						384	
HARMONIC	ACC1	PLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	AC1	PLL1	AC3	AC4	AC5	AC6
DC	-3.75 0.00	-98.33 0.00	-15.97 0.00	-3.26 0.00	-94.23 0.00	12.78 0.00	DC	-7.27 0.00	-76.03 0.00	-17.15 0.00	-0.48 0.00	-94.33 0.00	14.13 0.00
1 COS 1 SIN	-0.27 0.38	-1.67 -15.16	0.55 0.15	19.16 -8.60	0.22 -1.19	0.65 0.70	1 COS 1 SIN	-1.05 -1.19	-15.36 26.49	-0.96 0.03	19.65 -9.61	-0.31 -1.60	-0.38 0.82
2 COS 2 SIN	-2.80 8.05	10.41 -0.62	-0.06 0.98	-6.23 -5.74	1.51 -2.17	0.80 0.33	2 COS 2 SIN	-3.58 6.91	13.42 5.25	-0.91 -0.95	-3.90 -5.90	1.52 -1.63	0.43 0.37
3 COS 3 SIN	-4.83 -1.80	-10.87 7.45	-3.95 -0.31	0.63 3.14	-0.23 0.59	-1.44 1.69	3 COS 3 SIN	-0.70 -4.23	-21.52 -3.58	-1.41 -2.83	2.04 0.40	-1.36 -0.10	-1.40 3.29
4 COS 4 SIN	7.60 5.86	17.55 7.35	-10.74 -4.16	-16.64 -2.20	-8.80 -6.63	-1.32 1.52	4 COS 4 SIN	7.38 4.14	-22.90 -13.86	-10.10 -7.94	-17.01 -1.84	-8.41 -11.82	-3.13 1.36
5 COS 5 SIN	-5.97 -7.79	-5.65 9.42	1.74 -1.15	20.48 -2.10	4.40 -1.33	-0.23 1.13	5 COS 5 SIN	-7.86 -9.89	-15.50 -19.11	0.90 -1.50	26.23 -2.62	3.47 1.57	-1.05 2.55
6 COS 6 SIN	-5.24 10.53	0.71 19.06	-0.80 1.17	-20.40 -27.98	-6.22 -0.54	-1.44 1.28	6 COS 6 SIN	-0.44 3.43	6.32 8.27	2.60 2.78	-8.47 -10.29	-0.77 -0.52	1.08 -2.89
7 COS 7 SIN	-9.68 3.28	-4.50 3.61	1.04 -0.62	3.27 -17.54	1.69 -0.36	-0.81 -2.27	7 COS 7 SIN	-9.74 4.05	22.50 14.68	0.22 0.04	3.92 -22.54	1.02 -0.14	1.18 -1.90
8 COS 8 SIN	-8.31 -3.96	-15.13 -11.86	-7.54 -4.88	6.81 -0.69	1.12 -4.88	3.00 10.72	8 COS 8 SIN	-10.89 -8.58	-1.14 8.01	-4.42 -0.37	16.13 -1.62	-1.40 -4.37	-0.53 5.31
9 COS 9 SIN	-2.06 -3.10	8.93 -1.61	0.52 -2.88	3.64 -4.24	3.70 14.89	3.01 4.84	9 COS 9 SIN	-1.78 1.48	8.62 2.71	0.29 -1.37	-10.82 -10.59	6.50 6.77	3.56 3.59
10 COS 10 SIN	-2.10 -4.16	-9.45 2.38	-3.99 8.10	-8.28 2.02	8.59 0.89	3.84 -5.30	10 COS 10 SIN	3.72 -9.59	-4.67 9.42	-3.21 5.81	-10.88 17.62	-1.54 6.89	2.10 -1.38
11 COS 11 SIN	-4.22 -3.54	-8.55 -2.67	-1.18 -4.32	15.39 2.78	3.32 4.79	3.68 2.65	11 COS 11 SIN	-0.47 2.18	-2.86 -5.97	-1.97 -3.41	4.55 -1.77	-3.95 4.47	0.78 3.12
12 COS 12 SIN	-12.86 2.88	15.92 -10.22	-2.09 0.95	1.83 0.38	-7.97 -5.50	0.39 -0.27	12 COS 12 SIN	-13.71 11.10	-14.60 2.36	-2.86 -0.87	-7.93 -7.76	1.54 -15.58	1.08 2.32

D136

## FFT COEFFICIENTS FOR DATA POINT

## FFT COEFFICIENTS FOR DATA POINT 385

HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
DC	-5.87 0.00	-87.85 0.00	-17.38 0.00	-0.45 0.00	-93.17 0.00	13.05 0.00	DC	-5.45 0.00	-85.55 0.00	-16.30 0.00	-3.38 0.00	-93.57 0.00	13.85 0.00
1 COS 1 SIN	-0.12 1.18	-8.22 -6.15	-1.06 -0.15	21.26 -8.45	0.34 -1.28	0.33 0.43	1 COS 1 SIN	0.55 0.65	11.72 -6.75	-0.19 0.04	18.43 -7.53	0.58 -1.33	0.28 0.37
2 COS 2 SIN	-2.74 2.99	-6.81 7.16	-1.03 -0.24	0.89 -3.99	-2.77 -3.63	-0.83 -1.07	2 COS 2 SIN	-2.92 3.98	7.29 10.05	-1.91 0.41	-0.29 -4.09	0.44 -2.17	-0.02 -0.75
3 COS 3 SIN	6.29 1.02	15.85 19.78	-4.57 0.06	-2.38 5.54	-1.54 0.69	-0.02 2.97	3 COS 3 SIN	4.12 0.64	15.47 2.88	-3.12 -0.42	-4.36 -1.54	-0.29 0.35	0.11 2.54
4 COS 4 SIN	-11.84 -8.19	-6.09 6.36	11.33 2.70	20.83 8.84	7.28 8.61	-1.12 -1.06	4 COS 4 SIN	-0.19 -15.09	-4.71 -20.70	-0.90 8.29	4.09 20.69	-3.34 2.68	-3.48 -2.36
5 COS 5 SIN	-1.11 -3.54	-1.20 8.54	0.61 -1.00	3.28 5.77	6.09 5.17	0.44 4.59	5 COS 5 SIN	0.46 -4.21	-7.89 -12.30	1.62 0.01	0.34 6.67	5.18 3.81	2.17 4.35
6 COS 6 SIN	1.79 8.03	1.36 -19.30	-0.60 -1.82	-16.31 -14.45	-3.36 -8.21	-4.42 -1.38	6 COS 6 SIN	-8.41 1.62	21.16 -23.83	-1.24 -2.09	15.91 -27.65	8.44 -5.92	-2.25 -0.20
7 COS 7 SIN	0.57 6.35	8.46 -6.34	1.94 -0.35	-9.82 -2.48	2.58 0.48	0.46 -1.83	7 COS 7 SIN	2.15 8.54	-7.48 7.41	0.92 -1.06	-17.50 -6.55	4.07 0.50	-1.77 -1.33
8 COS 8 SIN	-3.10 -5.06	-9.51 -17.92	-4.43 1.35	5.74 4.04	-5.09 -2.58	5.42 3.37	8 COS 8 SIN	6.28 -2.44	-8.28 -29.26	-6.86 -0.38	-6.49 -0.38	-1.16 -6.19	4.81 0.52
9 COS 9 SIN	4.04 0.50	-13.80 20.02	-1.07 -1.07	-16.17 -8.20	7.66 7.91	4.19 -0.52	9 COS 9 SIN	-0.45 -3.36	-5.97 2.39	4.24 -5.87	-8.68 35.97	-11.01 25.55	-0.91 8.59
10 COS 10 SIN	-2.30 3.00	-5.67 -6.30	-3.70 8.19	-3.02 -2.44	-0.99 -4.59	2.58 -4.96	10 COS 10 SIN	2.62 -3.87	-23.78 -4.48	-1.97 6.01	10.11 27.14	-5.39 -1.03	-1.36 -3.35
11 COS 11 SIN	-6.57 0.75	5.14 -11.98	-4.13 1.32	7.87 -19.97	4.20 -2.77	2.E7 -1.E6	11 COS 11 SIN	-14.77 19.83	-11.09 -9.28	-0.95 -0.59	-12.56 -30.19	-5.52 3.62	-0.42 0.04
12 COS 12 SIN	9.30 -16.44	1.83 -2.47	0.13 0.45	4.80 -15.56	-0.75 1.88	-0.87 -2.33	12 COS 12 SIN	7.53 10.75	-15.42 4.21	0.32 0.03	-2.79 2.80	-0.79 9.53	-0.83 0.46

## FFT COEFFICIENTS FOR DATA POINT

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## FFT COEFFICIENTS FOR DATA POINT

388

HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
DC	-5.89 0.00	-96.54 0.00	-16.05 0.00	-3.02 0.00	-93.88 0.00	13.69 0.00	DC	-8.38 0.00	-62.48 0.00	-16.30 0.00	-2.12 0.00	-94.64 0.00	14.02 0.00
1 COS	-0.42 1 SIN	26.76 -0.28	-0.43 7.86	18.96 0.51	0.65 -1.14	-0.15 0.98	1 COS 1 SIN	-3.42 0.53	-13.05 6.85	0.32 0.04	19.90 -9.26	-0.36 -1.32	0.48 0.44
2 COS	-5.07 2 SIN	8.08 7.45	-0.09 1.53	0.37 -6.75	0.63 -1.59	-0.43 0.14	2 COS 2 SIN	-3.08 4.94	-19.22 -6.40	-1.36 0.31	-1.84 -2.94	-0.81 -1.69	0.13 -0.29
3 COS	6.12 3 SIN	-18.70 0.26	0.08 17.54	-6.33 4.75	0.38 -0.38	-0.21 1.79	3 COS 3 SIN	1.34 0.54	24.23 -19.62	-3.84 1.14	-1.36 1.03	-0.65 1.77	0.71 3.25
4 COS	7.59 4 SIN	-22.61 -12.15	8.62 2.63	-1.02 5.39	7.52 14.49	4.51 6.77	4 COS 4 SIN	-15.45 -6.82	8.34 6.04	11.94 17.57	11.20 3.77	1.34 12.13	2.52 -6.40
5 COS	2.46 5 SIN	6.58 -8.48	-0.37 -1.01	-12.90 4.78	5.43 6.97	3.99 7.24	5 COS 5 SIN	-3.45 -3.58	-17.60 -2.25	1.20 -4.00	-2.51 -2.82	4.71 1.87	-0.10 4.04
6 COS	10.92 6 SIN	-22.43 -11.89	2.28 -4.95	50.60 -3.06	8.69 -12.21	-2.51 -6.74	6 COS 6 SIN	0.11 13.59	3.86 6.32	1.71 2.00	-30.91 29.86	-0.25 -5.86	-0.70 -5.33
7 COS	-2.37 7 SIN	11.76 7.16	1.44 18.59	-13.53 -4.06	0.41 6.16	1.41 -3.86	7 COS 7 SIN	3.84 -16.32	-1.56 -10.50	-1.77 0.22	18.14 20.57	-0.10 -6.80	-1.74 -3.30
8 COS	12.16 8 SIN	-6.94 -2.87	-3.00 10.51	-4.05 -2.86	-2.39 -10.82	-3.31 4.92	8 COS 8 SIN	-11.91 -5.89	0.86 3.82	5.06 9.25	8.24 -4.72	-1.23 5.03	1.78 -8.66
9 COS	7.91 9 SIN	43.42 -4.28	2.15 -3.82	-0.62 -3.67	-0.12 30.54	1.20 18.94	9 COS 9 SIN	-3.29 -0.11	3.95 -5.91	-3.45 -2.62	26.74 -2.19	26.77 8.81	7.14 0.37
10 COS	7.57 10 SIN	-1.30 4.70	0.57 -4.21	0.43 6.80	-50.72 -3.74	2.43 -3.04	10 COS 10 SIN	1.86 -2.70	-11.82 5.11	-3.98 6.82	-27.72 -22.37	-4.22 -2.73	0.93 0.05
11 COS	-18.66 11 SIN	-8.40 22.08	2.07 0.25	7.16 -18.42	2.00 5.44	0.14 -2.38	11 COS 11 SIN	6.93 -15.05	-27.82 -11.91	-1.05 -2.01	15.66 20.89	-4.67 -6.30	0.15 2.07
12 COS	9.63 12 SIN	-3.80 0.47	-0.83 -1.07	-27.97 6.70	8.25 7.04	4.34 2.46	12 COS 12 SIN	2.95 -5.50	-2.63 36.59	0.43 -0.11	6.08 8.48	3.11 -16.47	-1.57 -2.93

D138

## FFT COEFFICIENTS FOR DATA POINT

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## FFT COEFFICIENTS FOR DATA POINT

390

HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
DC	-5.34 0.00	-66.24 0.00	-16.69 0.00	-3.08 0.00	-94.56 0.00	14.23 0.00	DC	-6.15 0.00	-81.78 0.00	-17.54 0.00	-2.91 0.00	-93.98 0.00	13.48 0.00
1 COS 1 SIN	-0.77 -0.37	1.52 11.22	-0.70 -0.07	20.01 -9.30	0.07 -2.16	0.97 0.60	1 COS 1 SIN	-0.11 -0.49	11.12 41.43	-0.03 0.18	22.03 -7.22	-0.58 -1.46	0.47 0.64
2 COS 2 SIN	-2.23 3.97	10.35 -13.12	-0.35 1.54	-2.15 -4.98	0.45 -1.75	1.25 0.62	2 COS 2 SIN	-4.25 2.74	16.80 15.76	-0.44 0.84	0.63 -3.69	-0.09 -1.91	0.53 -0.86
3 COS 3 SIN	4.99 -0.77	0.58 -8.97	-5.17 2.95	-0.70 4.28	-1.76 2.42	0.21 2.07	3 COS 3 SIN	4.77 -2.37	-12.48 -12.08	0.70 4.76	-0.93 3.63	-1.14 2.53	0.41 1.79
4 COS 4 SIN	4.34 -7.54	-12.80 3.55	16.03 -13.64	-6.97 2.68	12.16 -6.18	-4.71 -4.61	4 COS 4 SIN	9.34 8.67	-16.40 -18.08	15.29 -9.30	-11.99 -1.61	11.31 4.74	-4.04 -0.01
5 COS 5 SIN	-3.42 -4.93	1.62 -23.32	-1.69 -1.70	11.91 7.05	6.46 2.86	4.46 5.61	5 COS 5 SIN	-5.76 -9.28	-17.97 -12.84	-1.00 -2.72	20.08 10.58	3.46 3.20	0.63 5.33
6 COS 6 SIN	-7.81 -4.26	-12.52 -3.87	-1.55 -0.43	21.90 -16.28	2.75 -1.19	2.32 0.71	6 COS 6 SIN	7.10 -11.94	6.37 -19.46	1.31 -1.18	16.54 32.08	-2.90 6.54	0.74 3.18
7 COS 7 SIN	11.91 25.23	-11.41 9.39	4.35 -3.09	-49.89 -8.71	5.57 5.14	0.50 -3.13	7 COS 7 SIN	-4.55 20.55	14.85 -30.99	3.00 0.51	-24.03 -28.91	-0.05 3.97	2.57 -1.52
8 COS 8 SIN	0.37 -12.48	-0.43 -1.37	-9.35 0.43	6.66 6.57	-4.27 0.29	11.19 5.85	8 COS 8 SIN	7.61 9.48	0.92 -18.68	-5.08 -6.27	-12.25 -8.92	4.70 -1.07	-0.15 9.25
9 COS 9 SIN	3.12 -4.59	-7.83 7.50	1.62 -0.23	-16.54 7.83	-4.75 5.30	-0.32 0.76	9 COS 9 SIN	5.61 3.79	-4.46 -21.83	2.31 -0.15	-13.26 -20.89	-11.57 4.60	-1.47 1.77
10 COS 10 SIN	5.35 -0.18	-1.30 6.08	-1.17 7.50	-4.32 -4.21	-1.40 1.70	0.39 -3.17	10 COS 10 SIN	0.24 -5.27	-8.21 21.67	-1.65 11.06	30.43 5.62	-11.39 2.13	-0.02 -6.83
11 COS 11 SIN	6.70 -3.66	-7.43 -20.53	1.46 -1.16	3.42 7.15	6.85 2.30	0.90 0.21	11 COS 11 SIN	0.38 7.26	12.86 -1.15	-2.46 2.38	-12.45 -17.31	-3.29 -1.40	3.05
12 COS 12 SIN	-11.97 8.01	-13.57 6.18	-3.44 -4.78	21.06 -15.57	9.68 -19.46	5.63 4.75	12 COS 12 SIN	-6.96 9.74	-8.56 13.61	1.00 -1.66	-3.56 3.43	-5.43 2.40	0.57 0.74

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ORIGINAL PAGE 10  
OF POOR QUALITY

## FFT COEFFICIENTS FOR DATA POINT

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## FFT COEFFICIENTS FOR DATA POINT

392

HARMONIC	ACC1	PLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	PLL1	ACC3	ACC4	ACC5	ACC6
DC	-4.69 0.00	-84.58 0.00	-17.27 0.00	-3.39 0.00	-95.04 0.00	13.70 0.00	DC	-4.66 0.00	-84.07 0.00	-16.46 0.00	-3.21 0.00	-93.98 0.00	13.50 0.00
1 COS 1 SIN	-0.01 0.71	-8.11 15.68	1.46 0.37	19.58 -8.54	-0.21 -1.71	0.32 0.20	1 COS 1 SIN	-1.15 -0.42	-0.80 -6.13	-0.52 0.12	20.20 -7.19	1.35 -1.01	0.03 1.17
2 COS 2 SIN	-0.60 2.85	-9.72 11.90	1.14 0.98	-2.00 -1.97	-1.55 -2.83	-0.29 -1.72	2 COS 2 SIN	-0.42 -2.60	-7.62 4.13	-0.50 0.84	3.55 -1.07	-2.57 -1.93	-2.05 -0.23
3 COS 3 SIN	3.25 -1.89	13.74 -0.34	3.12 4.44	0.81 -0.50	0.60 2.35	0.51 1.56	3 COS 3 SIN	5.78 -3.51	-7.36 16.75	2.80 3.60	-1.27 4.66	1.88 2.89	0.18 1.78
4 COS 4 SIN	-0.92 -9.18	-14.47 -10.20	8.88 -15.57	5.13 6.56	9.44 -5.57	-5.08 -1.21	4 COS 4 SIN	0.01 10.79	-24.32 -9.88	6.17 -15.82	-3.42 -8.69	10.52 -0.68	-3.74 3.63
5 COS 5 SIN	-0.58 -2.41	24.23 10.68	0.00 -2.56	4.89 7.05	6.43 1.87	4.44 3.99	5 COS 5 SIN	-5.28 -8.71	-18.19 -15.38	-1.01 -1.93	27.65 8.40	8.33 1.58	2.28 3.50
6 COS 6 SIN	-8.20 6.54	24.48 5.15	-0.82 -0.86	-3.50 -22.27	0.74 -1.73	1.36 -0.40	6 COS 6 SIN	-2.99 -1.04	-3.39 3.72	-0.86 -1.60	-1.92 -2.69	2.16 4.64	1.32 4.07
7 COS 7 SIN	24.41 9.73	-3.51 -16.76	1.11 -2.60	-40.86 25.84	3.33 -2.81	-2.78 -1.66	7 COS 7 SIN	8.43 16.57	7.37 27.27	0.15 -1.32	-32.69 -8.50	3.97 -3.02	-3.03 -1.66
8 COS 8 SIN	-9.89 -2.00	10.60 -10.06	-3.57 5.07	3.28 -2.32	-9.45 0.55	9.71 -2.16	8 COS 8 SIN	16.61 5.47	4.91 2.11	-12.64 -5.24	-12.73 0.74	4.10 0.54	9.43 8.43
9 COS 9 SIN	0.64 -0.36	13.89 2.28	3.20 -2.29	-4.54 -1.35	-4.91 21.46	0.68 4.37	9 COS 9 SIN	2.98 -1.34	-4.85 2.84	0.49 -1.32	-13.17 -8.40	-1.93 15.54	2.46 3.02
10 COS 10 SIN	2.72 -0.12	19.50 -8.60	0.57 4.49	-18.65 -30.53	2.50 14.47	-1.23 2.10	10 COS 10 SIN	-1.46 -0.43	10.74 9.58	-3.58 5.45	10.47 -23.34	6.31 -0.74	2.55 0.09
11 COS 11 SIN	2.86 -4.85	1.55 -0.09	-3.06 0.35	13.40 1.42	0.40 -1.23	3.27 -2.77	11 COS 11 SIN	0.76 -9.79	-16.53 -1.46	0.10 -1.43	13.02 9.51	1.98 0.07	0.87 -0.63
12 COS 12 SIN	-6.56 15.57	-4.97 5.43	-3.00 -1.30	13.59 -15.76	4.39 -25.33	-1.95 -0.65	12 COS 12 SIN	0.57 -12.31	-10.02 -14.24	-2.36 -0.16	7.18 17.03	1.47 -3.39	3.76 -3.11

D140

FFT COEFFICIENTS FOR DATA POINT 393						FFT COEFFICIENTS FOR DATA POINT 394							
HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
1C	-4.56 0.00	-83.10 0.00	-16.37 0.00	-0.97 0.00	-94.47 0.00	11.79 0.00	1C	-7.49 0.00	-69.85 0.00	-16.15 0.00	-2.75 0.00	-93.56 0.00	13.78 0.00
1 COS 1 SIN	0.58 1.77	17.03 2.66	0.75 -0.26	18.63 -9.01	-0.98 0.44	-0.10 -1.72	1 COS 1 SIN	-1.01 -1.45	5.54 4.12	-0.68 0.93	19.92 -7.85	0.56 -0.37	-0.05 1.16
2 COS 2 SIN	-3.44 5.85	2.98 17.80	-0.89 0.48	-2.03 -6.13	0.53 -0.81	0.63 0.90	2 COS 2 SIN	-3.70 3.03	7.51 9.49	-0.20 0.10	-0.82 -4.65	1.07 -0.86	0.06 0.31
3 COS 3 SIN	3.98 -4.63	-4.53 -2.10	-2.91 -0.99	6.87 4.36	-2.21 0.23	-0.71 2.73	3 COS 3 SIN	3.19 -3.94	-9.25 -10.83	-0.05 4.52	-3.39 3.19	-0.59 1.50	0.89 1.54
4 COS 4 SIN	-2.43 11.06	11.88 14.70	-2.14 -10.81	-5.62 -22.62	-0.64 -12.22	-2.61 0.14	4 COS 4 SIN	8.58 7.25	-25.70 -20.27	15.99 -1.71	-11.62 -8.38	11.20 4.13	-0.63 -3.76
5 COS 5 SIN	-0.04 -11.27	-6.22 1.83	3.31 -0.04	19.21 16.16	6.04 0.05	0.32 -0.18	5 COS 5 SIN	-5.90 -9.07	11.88 -15.25	-1.31 -3.82	12.33 7.73	1.71 6.55	0.05 6.53
6 COS 6 SIN	-3.18 7.93	-15.95 -12.56	-1.08 2.28	-10.56 -18.30	-2.79 -1.11	-1.30 2.90	6 COS 6 SIN	-1.51 -14.34	12.14 -7.88	1.56 1.23	35.62 27.18	-1.04 8.23	6.84 0.22
7 COS 7 SIN	-6.73 -18.65	21.69 8.37	-0.56 0.42	29.15 10.94	-1.62 2.95	1.74 1.62	7 COS 7 SIN	-2.13 18.93	9.87 -7.50	0.91 1.68	-26.63 -25.80	1.07 3.34	1.23 -0.59
8 COS 8 SIN	-6.47 -6.18	-13.66 2.86	3.31 -5.12	-4.47 4.09	-0.35 -3.56	-6.80 5.02	8 COS 8 SIN	9.14 12.66	-6.75 15.94	-7.83 -6.37	-8.73 -11.19	2.02 -9.85	-0.38 10.93
9 COS 9 SIN	-1.31 -0.19	-3.10 5.90	5.66 0.51	-4.63 -15.14	-16.55 -0.73	-6.90 3.36	9 COS 9 SIN	5.19 7.48	-7.97 19.45	2.10 1.59	-28.44 -29.83	-11.35 1.63	-3.41 2.21
10 COS 10 SIN	2.97 -1.31	-2.45 -4.61	-3.86 8.13	-15.73 10.86	-2.86 1.64	2.76 -3.66	10 COS 10 SIN	-3.63 -0.51	-4.76 14.41	-4.51 8.63	1.69 -0.69	0.64 -0.04	2.87 -5.39
11 COS 11 SIN	-8.65 -4.37	-9.11 -0.65	-0.16 2.85	13.71 -11.23	-6.07 0.05	0.08 -0.04	11 COS 11 SIN	9.89 -25.06	-1.75 -0.13	-0.99 -0.22	21.46 29.72	-15.82 2.58	1.49 0.28
12 COS 12 SIN	8.31 -13.85	11.01 -12.95	0.70 1.19	18.63 -0.78	7.37 3.67	1.65 -4.22	12 COS 12 SIN	0.90 18.68	19.55 -23.68	1.58 -0.53	-7.27 5.67	-3.72 3.34	-5.92 -0.47

D141

ORIGINAL PAGE IS  
OF POOR QUALITY

FFT COEFFICIENTS FOR DATA POINT 395						FFT COEFFICIENTS FOR DATA POINT 396							
HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
DC	-6.72 0.00	-73.38 0.00	-16.80 0.00	-4.13 0.00	-94.96 0.00	13.34 0.00	DC	-5.46 0.00	-51.46 0.00	-18.32 0.00	-5.52 0.00	-95.24 0.00	13.58 0.00
1 COS 1 SIN	-1.33 0.40	-5.76 13.17	0.72 0.40	22.24 -8.27	0.05 -0.86	0.93 0.78	1 COS 1 SIN	-0.79 1.74	5.46 -12.01	-1.67 -0.32	17.71 -4.93	0.36 -0.74	0.38 0.42
2 COS 2 SIN	-3.00 0.16	4.79 19.05	0.34 0.66	3.22 -3.15	-2.06 -0.85	-0.90 -0.38	2 COS 2 SIN	-2.13 7.80	-12.59 15.58	-1.01 1.11	-6.61 -5.54	2.70 -2.63	1.61 -0.59
3 COS 3 SIN	4.32 -2.65	-0.36 3.77	2.71 3.40	4.12 3.34	-0.24 2.92	0.34 1.37	3 COS 3 SIN	1.77 -1.93	-14.09 -1.43	-3.10 2.62	4.96 2.01	-1.12 1.41	0.43 2.23
4 COS 4 SIN	14.85 8.13	18.28 -22.33	-2.18 -15.76	-14.25 -3.83	9.38 11.85	-1.42 1.52	4 COS 4 SIN	11.94 -1.99	-10.05 -0.31	12.98 1.67	-18.15 1.28	6.22 0.23	-1.95 -4.86
5 COS 5 SIN	-6.63 -0.73	26.16 6.39	0.33 -1.92	15.88 -10.06	7.17 0.25	0.41 3.77	5 COS 5 SIN	-7.75 -4.94	-1.24 19.37	-0.56 -1.57	12.80 -4.88	4.47 5.27	-0.49 6.42
6 COS 6 SIN	-1.46 -0.76	33.45 13.38	3.97 -2.56	7.12 -5.88	4.21 3.92	2.30 -5.88	6 COS 6 SIN	-4.36 -11.13	-1.61 -3.89	1.59 -2.11	31.40 6.92	4.70 1.88	-2.50 0.67
7 COS 7 SIN	13.68 -11.77	4.88 -4.03	0.18 -2.89	1.24 27.28	0.58 -2.46	-1.23 2.23	7 COS 7 SIN	-16.90 20.58	6.47 -16.33	1.85 -0.76	-14.40 -40.81	2.60 3.04	0.76 -2.75
8 COS 8 SIN	8.69 -15.72	4.28 1.46	-2.31 15.05	-0.11 15.97	-3.03 -9.94	4.02 -13.15	8 COS 8 SIN	6.17 -6.25	-15.50 -0.89	-3.95 -1.29	3.15 7.45	-6.00 -6.32	0.60 2.73
9 COS 9 SIN	-3.33 -4.40	10.58 0.05	-0.80 -2.24	1.44 33.69	14.58 11.42	4.61 -0.07	9 COS 9 SIN	7.81 1.91	-4.91 -12.12	-1.29 2.29	-17.35 5.45	0.94 -10.30	0.22 -3.20
10 COS 10 SIN	3.46 6.89	30.59 23.28	-2.13 10.70	-29.81 -17.71	-1.64 -0.86	3.01 -6.43	10 COS 10 SIN	1.23 -1.43	18.67 -17.54	-6.89 12.80	1.21 13.53	-1.75 -10.54	6.05 -10.63
11 COS 11 SIN	-5.85 11.95	-18.48 -7.35	2.91 1.35	-8.91 -23.91	6.82 -1.96	-2.99 -2.04	11 COS 11 SIN	-12.42 -21.94	-7.81 13.21	-1.38 2.03	24.74 -2.74	-3.63 4.19	0.80 -1.97
12 COS 12 SIN	9.58 19.52	-9.66 -13.90	1.51 1.36	9.40 -3.97	-20.07 16.32	-6.80 0.40	12 COS 12 SIN	8.08 11.89	-4.51 -2.50	-0.83 2.45	-10.22 -7.81	-17.18 -0.83	1.01 -4.51

D142

## FFT COEFFICIENTS FOR DATA POINT

## FFT COEFFICIENTS FOR DATA POINT

397

HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
DC	-5.21 0.00	-98.71 0.00	-15.62 0.00	-6.24 0.00	-94.67 0.00	12.55 0.00	DC	-6.24 0.00	-133.27 0.00	-17.75 0.00	-5.55 0.00	-92.48 0.00	11.77 0.00
1 COS 1 SIN	-1.43 -0.06	-17.79 3.94	-0.15 0.00	20.24 -6.80	0.28 -1.36	0.52 0.73	1 COS 1 SIN	-2.60 0.29	13.82 -14.06	-1.09 -0.05	21.39 -7.03	1.39 -0.98	-0.09 0.81
2 COS 2 SIN	-4.71 -1.22	-18.42 13.01	-0.31 -0.93	4.76 -3.95	-1.27 -0.59	-1.40 -0.57	2 COS 2 SIN	-2.33 -0.58	16.20 -15.31	-0.75 -0.30	2.64 0.95	-2.56 -1.39	-2.05 -1.09
3 COS 3 SIN	5.53 -1.54	-7.57 0.41	3.19 -0.93	-6.38 5.83	0.48 -0.33	-0.72 1.32	3 COS 3 SIN	3.86 -0.47	-13.05 -9.61	-2.75 -1.78	-5.73 5.11	0.81 0.98	0.11 2.95
4 COS 4 SIN	9.83 7.89	2.76 8.70	2.78 14.76	0.71 -11.75	3.38 16.82	7.40 2.83	4 COS 4 SIN	0.85 -16.59	11.68 6.89	9.55 -0.64	10.19 15.67	11.53 4.05	0.82 -1.48
5 COS 5 SIN	-0.24 -4.24	16.05 12.28	-1.04 -2.25	5.34 4.91	1.56 2.05	0.83 6.75	5 COS 5 SIN	-0.35 -1.32	1.40 8.49	-0.17 0.96	-6.37 1.25	6.24 8.19	4.46 7.03
6 COS 6 SIN	-0.85 -13.27	-11.02 -15.89	-2.27 -0.26	26.97 31.62	-3.56 4.91	3.59 3.07	6 COS 6 SIN	-17.16 -11.60	3.26 9.42	2.52 -2.33	60.17 -23.47	11.20 2.63	1.56 -9.60
7 COS 7 SIN	12.76 16.93	-5.52 3.46	1.18 -0.46	-33.40 -4.49	-0.48 1.24	-0.80 -1.08	7 COS 7 SIN	5.42 2.61	-8.51 -29.76	2.29 -0.72	-5.69 10.23	2.82 4.48	-2.19 -2.11
8 COS 8 SIN	-6.06 -19.68	-0.94 -13.09	-2.04 -6.03	-5.64 -18.86	10.24 -3.28	-4.22 2.98	8 COS 8 SIN	17.30 -6.66	-9.14 19.93	-12.65 -2.98	-13.93 10.47	1.61 -4.34	9.76 9.14
9 COS 9 SIN	-0.29 -1.60	7.13 6.25	-0.68 1.61	8.69 10.51	-6.72 1.58	1.68 -0.07	9 COS 9 SIN	-3.95 -4.39	2.39 -9.12	-0.30 -3.18	13.18 -3.85	9.05 24.44	5.17 5.10
10 COS 10 SIN	0.14 -2.99	3.38 18.92	-2.10 9.69	14.07 -22.94	-8.49 4.19	0.68 -4.05	10 COS 10 SIN	2.85 -0.77	-2.57 1.87	-0.65 9.33	0.49 -3.70	1.81 -4.06	-3.42 -3.08
11 COS 11 SIN	9.51 4.40	-18.80 -2.15	-1.69 -2.48	-16.72 6.15	-6.49 -2.62	1.85 4.76	11 COS 11 SIN	-21.49 2.78	9.98 -4.56	1.81 4.58	-8.63 -27.89	12.11 5.69	-1.83 -6.53
12 COS 12 SIN	-10.28 0.01	0.95 6.42	1.72 2.14	-12.21 -10.13	-0.68 7.51	-5.47 -1.81	12 COS 12 SIN	-9.58 7.06	-2.44 -10.75	-0.92 -0.18	15.24 22.87	2.94 -12.90	-1.05 -1.97

D143

GRADUAL POOR QUALITY

## FFT COEFFICIENTS FOR DATA POINT 399

HARMONIC	ACC1	PLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	AC1	FLL1	ACC3	ACC4	ACC5	ACC6
DC	-6.30	-68.85	-17.16	-5.66	-94.83	13.08	DC	-5.75	-72.29	-16.98	-4.21	-94.02	11.90
1 COS	-1.14	8.72	-0.03	20.63	0.55	-0.19	1 SIN	-0.69	1.94	-1.10	21.41	-0.38	-0.48
1 SIN	-0.60	20.09	0.09	-6.08	-0.49	0.82	1 SIN	-0.15	-2.26	-0.19	-6.12	-2.40	0.37
2 COS	-3.62	-5.57	-0.28	4.74	0.00	-0.26	2 COS	-6.95	6.18	-2.01	-0.09	3.21	0.47
2 SIN	-2.72	-14.71	-1.02	-2.17	-1.56	-0.65	2 SIN	-3.40	-16.46	-0.81	-8.43	0.82	0.88
3 COS	3.63	-1.28	0.91	-2.04	0.95	-1.22	3 COS	0.74	-11.04	-2.82	5.04	-0.79	-0.81
3 SIN	-4.15	-10.26	-2.58	3.35	1.17	2.85	3 SIN	-5.56	33.46	-1.49	3.86	0.28	2.27
4 COS	7.11	0.37	-1.06	-7.76	2.31	0.62	4 COS	15.78	3.36	-3.18	-21.13	0.83	-2.69
4 SIN	10.10	9.92	-1.51	-5.42	2.29	3.68	4 SIN	0.67	22.41	-13.70	1.33	-17.90	-0.89
5 COS	-6.43	20.23	-0.61	4.48	2.68	-0.45	5 COS	-2.27	-8.83	2.56	15.03	4.11	0.31
5 SIN	-2.05	-3.55	-1.99	-5.50	4.24	6.47	5 SIN	-8.43	-6.23	-1.57	2.97	2.05	2.58
6 COS	-1.33	-4.32	1.16	28.47	1.72	7.82	6 COS	-7.40	3.40	0.21	27.02	12.98	0.27
6 SIN	-11.77	-16.29	2.75	28.07	7.95	0.32	6 SIN	-3.44	13.49	-1.93	-8.86	4.05	0.28
7 COS	6.69	-1.80	0.12	-29.16	0.10	0.96	7 COS	0.64	-15.97	-0.16	-1.72	0.81	-0.86
7 SIN	15.44	-0.42	-0.50	-4.38	1.70	-0.84	7 SIN	1.43	-13.83	-0.12	-1.77	0.00	1.95
8 COS	-0.88	-1.87	-7.30	0.37	4.97	5.24	8 COS	-5.47	6.77	2.15	13.08	1.79	-1.94
8 SIN	-3.63	-6.85	-4.12	3.61	-8.76	7.22	8 SIN	-17.29	5.23	10.44	11.17	-6.52	-10.56
9 COS	6.41	4.65	-2.07	-20.55	13.35	5.53	9 COS	5.99	-3.97	0.18	-19.80	6.39	-3.22
9 SIN	1.54	0.99	-0.10	-13.05	-1.03	-1.39	9 SIN	2.84	0.80	3.32	-7.44	-16.68	-3.40
10 COS	-0.21	18.09	-4.39	27.34	-1.15	3.17	10 COS	0.32	-11.11	-1.96	0.96	-7.84	-2.20
10 SIN	5.01	5.79	6.70	-15.31	6.35	-1.67	10 SIN	-0.67	-0.83	7.14	6.20	1.03	-2.92
11 COS	4.53	-4.30	-2.81	5.32	-4.86	2.67	11 COS	-0.81	-41.45	1.86	8.28	0.34	-3.38
11 SIN	-2.39	13.36	-3.48	3.90	0.60	3.01	11 SIN	-0.82	15.57	2.15	3.68	-2.61	-0.60
12 COS	-7.95	16.61	1.15	13.32	4.58	-1.13	12 COS	26.59	7.89	-0.20	-6.61	4.26	2.07
12 SIN	-6.16	-6.98	0.10	-6.33	-5.64	-2.39	12 SIN	10.01	-4.90	-1.17	-3.69	19.37	8.85

D144

## FFT COEFFICIENTS FOR DATA POINT

401

## FFT COEFFICIENTS FOR DATA POINT

402

HARMONIC	ACC1	PLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	PLL1	ACC3	ACC4	ACC5	ACC6
0C	-6.39 0.00	-86.20 0.00	-16.85 0.00	-4.74 0.00	-94.24 0.00	12.34 0.00	NC	-8.35 0.00	-65.82 0.00	-16.23 0.00	-5.33 0.00	-95.30 0.00	11.70 0.00
1 COS 1 SIN	-1.23 0.54	11.78 1.29	0.93 -0.28	22.84 -6.27	-0.95 -1.05	0.38 0.43	1 COS 1 SIN	-4.07 0.94	11.00 11.49	0.47 -0.08	20.23 -10.02	0.14 -1.35	0.44 0.50
2 COS 2 SIN	2.36 0.59	-13.51 -32.29	1.32 0.36	0.29 3.56	-3.99 -3.29	-0.13 -1.50	2 COS 2 SIN	-5.86 2.47	5.36 13.00	-0.55 0.31	3.00 -4.47	-1.67 -2.04	-1.15 -0.66
3 COS 3 SIN	1.08 1.52	-10.95 40.55	3.03 4.05	1.35 -8.72	0.70 2.32	1.10 1.68	3 COS 3 SIN	4.02 -1.22	-16.99 -13.79	0.15 -3.53	-1.20 6.15	-0.51 0.13	-1.16 2.20
4 COS 4 SIN	1.39 -16.62	-2.63 28.51	-11.21 5.55	5.60 22.53	-9.37 3.62	2.83 3.82	4 COS 4 SIN	-7.68 -11.84	-3.51 -17.23	5.53 0.33	9.21 10.80	8.09 -1.05	0.76 -2.73
5 COS 5 SIN	-5.82 -3.93	3.25 -3.78	0.21 -2.71	-12.02 -21.63	2.24 2.76	-1.41 6.51	5 COS 5 SIN	-1.97 -1.89	-12.57 -6.58	1.81 0.97	-0.47 2.31	5.34 5.02	2.43 3.15
6 COS 6 SIN	-0.82 -3.51	-0.21 -9.62	1.10 -5.12	17.21 0.56	8.60 -1.39	-4.63 -2.34	6 COS 6 SIN	-1.82 10.75	5.43 18.21	0.23 1.30	-35.40 -35.40	6.19 -2.29	-0.86 -3.51
7 COS 7 SIN	14.55 -6.33	-5.15 12.66	-1.36 0.08	-6.59 25.24	-4.13 -6.89	0.28 2.41	7 COS 7 SIN	9.49 -1.38	-22.92 -20.50	-1.05 -2.04	-3.73 16.88	5.36 -1.88	-1.66 0.05
8 COS 8 SIN	1.46 8.74	-15.66 -5.49	1.97 -4.25	-9.15 -6.34	1.55 -0.57	-1.09 1.52	8 COS 8 SIN	2.59 -11.50	-4.94 -12.45	-3.55 6.37	1.62 9.59	-6.30 -5.56	4.76 -0.62
9 COS 9 SIN	-1.55 -1.53	4.94 34.64	2.93 -1.29	3.21 13.18	-14.98 1.96	-1.54 3.03	9 COS 9 SIN	-2.63 3.48	-14.80 0.26	-0.34 0.19	-7.47 8.00	2.47 -1.60	-0.72 -1.24
10 COS 10 SIN	-3.25 -1.44	10.88 -3.61	-2.41 9.67	7.81 5.64	-10.23 -5.24	-0.08 -7.85	10 COS 10 SIN	7.01 0.14	-7.83 -9.44	-5.87 7.19	3.18 -5.57	0.11 -0.77	5.93 -4.36
11 COS 11 SIN	-1.00 -2.42	-8.02 5.94	-2.77 0.13	-2.40 -0.44	0.93 1.93	2.64 -0.78	11 COS 11 SIN	6.56 2.09	-19.64 7.46	3.10 1.80	-8.35 3.97	4.93 0.43	-1.68 -2.02
12 COS 12 SIN	-8.30 0.06	14.20 4.76	4.67 -0.75	-3.76 -4.19	3.18 23.96	-4.00 2.32	12 COS 12 SIN	-5.46 12.56	2.77 5.55	-1.72 1.20	22.01 -9.89	-2.68 -2.23	3.93 -1.97

D145

FFT COEFFICIENTS FOR DATA POINT 403						FFT COEFFICIENTS FOR DATA POINT 404							
HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
DC	-4.57 0.00	-95.14 0.00	-16.56 0.00	-5.30 0.00	-94.28 0.00	11.59 0.00	DC	-5.50 0.00	-87.19 0.00	-17.45 0.00	-6.06 0.00	-96.13 0.00	11.05 0.00
1 COS 1 SIN	-2.23 0.40	-2.07 -8.79	0.77 -0.60	18.50 -7.49	-0.40 -0.64	0.18 1.08	1 COS 1 SIN	-0.25 0.94	18.78 -9.16	0.15 -0.42	19.83 -8.48	-0.05 -1.15	0.25 0.45
2 COS 2 SIN	-0.17 3.15	-7.21 -33.15	-0.53 -0.12	0.42 -0.54	-0.89 -4.15	-0.83 -1.33	2 COS 2 SIN	-2.21 3.31	-6.09 -23.90	-1.27 0.96	-0.92 -3.18	-1.93 -1.62	-0.39 0.16
3 COS 3 SIN	0.37 1.22	-6.35 -24.06	0.74 -3.35	-3.10 -5.01	-0.15 -0.90	-0.55 2.45	3 COS 3 SIN	3.76 -4.03	-19.02 -4.38	-3.26 2.57	7.23 3.15	-1.44 2.30	0.09 2.57
4 COS 4 SIN	16.76 -4.19	19.28 -33.31	-1.61 17.07	-10.87 15.01	-7.23 14.05	4.00 0.32	4 COS 4 SIN	-4.22 11.33	-16.72 20.48	3.41 -14.59	-3.40 -17.06	2.64 -10.33	-6.72 0.37
5 COS 5 SIN	-1.71 1.15	-0.12 -1.85	2.2E -1.96	-3.89 15.89	2.18 0.60	-2.29 6.33	5 COS 5 SIN	-7.21 -10.89	11.64 4.15	3.85 -3.09	30.32 0.93	5.85 -1.79	-3.77 -0.71
6 COS 6 SIN	-5.36 -5.76	-4.65 34.66	2.82 -0.74	19.56 -0.07	3.76 8.73	-0.49 -4.22	6 COS 6 SIN	12.39 6.89	-0.38 9.79	-1.26 4.01	-47.10 14.28	-6.73 -0.02	2.75 4.10
7 COS 7 SIN	16.80 -4.80	1.27 20.34	-1.64 -1.36	-8.82 23.67	0.72 -4.86	-3.00 2.49	7 COS 7 SIN	3.26 1.02	-15.31 9.06	-2.84 -0.20	-8.09 0.73	-2.92 -5.61	-0.30 3.27
8 COS 8 SIN	-3.59 8.51	3.04 5.41	2.97 5.48	3.73 -5.02	1.04 -0.74	-1.68 -9.19	8 COS 8 SIN	0.52 3.51	-14.37 -0.58	-4.44 2.47	-7.99 -6.36	0.37 2.95	2.14 -1.35
9 COS 9 SIN	-2.99 -6.24	-3.76 0.93	-1.61 1.43	12.19 21.54	-2.05 -8.28	0.13 -1.06	9 COS 9 SIN	-6.19 0.26	-21.67 -4.69	2.22 -0.84	17.19 9.15	-0.16 20.92	2.73 1.01
10 COS 10 SIN	0.18 -0.63	13.32 -9.60	-1.88 8.22	-2.26 -27.45	0.30 3.01	-0.33 -5.48	10 COS 10 SIN	2.15 2.42	-3.45 3.89	-1.65 -7.21	-32.21 -1.17	2.67 -0.18	-0.69 -3.88
11 COS 11 SIN	-5.40 -5.84	-3.99 6.57	-1.49 -1.30	5.81 -0.81	-4.98 -0.14	0.20 1.29	11 COS 11 SIN	-8.23 3.90	-8.93 5.57	0.02 3.63	2.64 -16.72	4.54 -1.95	-0.42 -2.64
12 COS 12 SIN	13.71 -20.54	-0.04 5.46	-0.09 0.09	9.77 -13.32	13.88 -14.22	-2.20 0.62	12 COS 12 SIN	-30.50 1.35	-16.87 7.84	0.51 1.96	17.63 4.94	-14.76 -5.14	0.41 -4.26

ORIGINAL  
OF POOR QUALITY

D146

## FFT COEFFICIENTS FOR DATA POINT 405

## FFT COEFFICIENTS FOR DATA POINT 406

HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
DC	-4.96 0.00	-94.03 0.00	-17.63 0.00	-7.95 0.00	-94.27 0.00	10.37 0.00	DC	-5.97 0.00	-60.48 0.00	-16.26 0.00	-5.94 0.00	-95.58 0.00	10.86 0.00
1 COS 1 SIN	-0.71 1.56	4.70 -1.43	-0.19 0.64	19.90 -7.53	0.51 -1.22	0.45 0.53	1 COS 1 SIN	0.24 -0.51	-24.44 0.90	0.14 0.55	19.18 -8.86	0.43 -0.44	-0.24 0.67
2 COS 2 SIN	-1.59 4.17	2.59 -0.99	-1.79 -0.16	-3.45 -4.46	-0.30 -1.09	-0.20 0.51	2 COS 2 SIN	-2.26 4.88	6.53 -11.68	0.25 -0.70	-3.79 -4.62	1.16 -2.32	0.05 -0.42
3 COS 3 SIN	3.55 0.89	1.90 10.01	-4.34 -2.13	-5.86 4.34	-0.70 -1.01	-0.77 2.74	3 COS 3 SIN	2.24 -5.46	-15.16 10.13	3.77 -1.81	-0.29 4.28	1.45 0.37	-1.04 1.39
4 COS 4 SIN	-11.25 -0.42	-14.75 -18.07	5.31 19.97	7.27 -9.54	-7.13 13.13	0.56 -4.10	4 COS 4 SIN	11.46 -0.20	11.08 6.25	-9.89 19.03	-16.42 6.99	-14.56 -6.63	4.43 -0.04
5 COS 5 SIN	-1.83 -4.17	-8.27 2.37	-0.51 -2.48	-0.90 7.70	3.29 2.48	-0.28 5.85	5 COS 5 SIN	-6.20 -4.24	6.51 5.40	-0.12 -1.66	13.80 -3.92	3.52 1.56	0.27 5.09
6 COS 6 SIN	8.84 9.11	1.59 -14.88	2.46 1.35	-37.21 -3.73	-3.36 -3.85	-0.37 -2.59	6 COS 6 SIN	-6.85 4.49	-7.19 -10.98	1.49 1.21	2.83 -29.52	0.73 0.81	2.30 -5.22
7 COS 7 SIN	-5.68 -12.71	0.42 6.64	-1.05 -0.31	24.89 4.22	-0.10 -6.58	-2.68 1.89	7 COS 7 SIN	11.35 6.36	0.61 11.83	-0.16 -2.52	-17.45 3.93	5.34 -3.85	-5.42 -0.66
8 COS 8 SIN	-9.04 -4.95	1.78 -1.10	-1.40 11.58	3.86 -0.91	4.69 -3.12	5.23 -15.73	8 COS 8 SIN	0.09 12.78	-3.40 9.06	-7.07 3.64	-2.91 -9.55	-1.70 2.76	11.27 -1.31
9 COS 9 SIN	-0.62 -5.88	16.65 2.58	-1.76 -0.11	-4.08 14.79	7.58 -3.49	2.11 -0.24	9 COS 9 SIN	-3.42 -8.99	-5.09 0.85	3.13 -3.47	-1.91 41.22	-6.13 14.79	0.02 3.54
10 COS 10 SIN	-0.79 4.62	-15.56 -11.95	-2.41 6.75	-19.38 -32.19	9.22 3.98	0.61 -0.46	10 COS 10 SIN	0.82 -0.05	-9.07 -9.81	-1.83 7.29	16.90 8.32	14.40 8.95	1.66 -4.38
11 COS 11 SIN	2.15 -2.49	22.03 9.26	-2.56 0.55	4.28 -0.92	0.01 -3.41	-0.12 -0.40	11 COS 11 SIN	-8.62 -2.82	3.58 6.98	2.42 -0.11	5.51 -11.86	7.25 -3.26	-2.84 -1.06
12 COS 12 SIN	7.39 -19.36	5.54 3.38	1.42 -1.27	0.33 6.99	12.45 -2.37	-0.11 -4.10	12 COS 12 SIN	10.34 -6.27	4.89 -3.51	1.23 -0.74	7.69 -3.72	21.28 10.44	-1.21 -0.82

ORIGINAL PAPER  
OF POOR QUALITY

D147

## FFT COEFFICIENTS FOR DATA POINT

407

## FFT COEFFICIENTS FOR DATA POINT

408

HARMONIC	ACC1	PLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	PLL1	ACC3	ACC4	ACC5	ACC6
DC	-7.47 0.00	-93.99 0.00	-16.35 0.00	-8.34 0.00	-96.10 0.00	11.90 0.00	DC	-5.32 0.00	-86.86 0.00	-16.03 0.00	-6.16 0.00	-92.86 0.00	11.17 0.00
1 COS 1 SIN	-0.71 -0.94	-7.60 -10.00	0.59 -0.26	19.28 -9.15	0.12 -1.69	0.61 0.44	1 COS 1 SIN	-0.56 -0.12	-8.03 -7.25	0.20 -0.05	21.46 -7.68	0.74 -1.16	-0.49 0.82
2 COS 2 SIN	-3.30 6.02	3.87 4.70	-0.30 0.40	-4.23 -8.15	1.63 -1.22	0.71 0.51	2 COS 2 SIN	-4.14 -0.04	0.86 -19.33	0.48 -0.51	0.83 -2.87	-0.50 -3.55	-0.97 -1.38
3 COS 3 SIN	2.88 -3.64	4.82 -1.44	0.95 -3.68	3.12 5.58	-1.02 0.32	-2.25 1.59	3 COS 3 SIN	3.34 -0.03	1.36 0.42	2.11 -2.70	-6.35 -3.39	1.63 0.11	-1.18 1.55
4 COS 4 SIN	5.44 -2.67	8.80 13.72	14.60 -3.22	-12.81 -5.11	7.65 -6.35	-2.21 -6.50	4 COS 4 SIN	13.61 -0.26	-4.13 6.21	11.37 -0.26	-13.90 3.58	7.17 5.11	-1.38 -0.34
5 COS 5 SIN	-0.08 -10.55	18.39 -0.12	-1.16 -0.67	7.76 16.75	2.42 4.66	2.01 6.19	5 COS 5 SIN	-4.73 -3.22	29.60 -12.45	-2.66 -2.68	11.91 -4.87	-0.76 3.52	-0.94 8.19
6 COS 6 SIN	-8.11 0.93	4.35 -3.03	-0.67 -0.68	22.68 -22.14	7.94 -1.92	-0.83 -0.15	6 COS 6 SIN	-1.87 -11.15	-7.33 5.85	-0.91 2.21	27.41 37.30	3.29 9.79	8.44 2.36
7 COS 7 SIN	-14.63 16.87	-21.73 10.39	0.87 0.59	-9.68 -37.16	0.93 0.42	0.80 -1.16	7 COS 7 SIN	0.22 15.06	-13.93 -2.06	-0.65 2.20	-25.20 -15.44	-1.60 -0.41	1.74 1.31
8 COS 8 SIN	0.04 -10.35	22.39 13.87	-2.11 0.06	5.79 3.49	-4.30 -0.02	2.30 3.96	8 COS 8 SIN	-7.01 6.59	-3.76 13.70	-0.17 -1.70	3.42 -13.50	7.13 -5.58	-6.76 6.56
9 COS 9 SIN	5.99 -0.13	-6.50 12.49	2.38 0.61	-18.38 9.73	-10.84 -3.24	-3.57 2.02	9 COS 9 SIN	8.62 6.65	-4.81 21.72	0.63 -0.57	-12.00 -4.66	-5.77 11.63	1.49 4.28
10 COS 10 SIN	2.20 1.58	5.38 -7.84	-3.17 8.59	-2.95 17.40	-5.07 0.01	2.82 -2.33	10 COS 10 SIN	-1.51 -1.33	13.38 -12.02	-2.91 11.75	10.13 -13.27	-3.93 5.41	-1.71 -7.65
11 COS 11 SIN	-4.67 -2.27	6.05 2.41	1.96 -1.63	1.68 -1.93	-4.71 2.22	-1.92 1.29	11 COS 11 SIN	12.26 -18.45	-5.72 -16.31	-0.42 3.17	5.24 33.73	-4.86 1.30	1.37 0.50
12 COS 12 SIN	-3.02 -7.35	5.90 18.73	2.26 1.79	-2.62 -3.20	2.57 14.66	-0.45 -1.10	12 COS 12 SIN	18.84 10.12	-21.39 -14.50	-0.89 0.01	5.91 -22.57	-4.61 20.51	2.24 3.87

D148

## FFT COEFFICIENTS FOR DATA POINT 409

## FFT COEFFICIENTS FOR DATA POINT 410

HARMONIC	ACC1	PLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	PLL1	ACC3	ACC4	ACC5	ACC6
DC	-5.64	-105.82	-17.29	-7.39	-95.02	11.35	DC	-4.55	-103.77	-15.69	-7.91	-95.53	10.63
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 COS	0.50	-2.61	-0.50	19.70	0.20	-0.24	1 COS	0.40	-11.91	0.32	19.76	0.15	-0.36
1 SIN	-0.10	16.78	0.12	-9.03	-1.14	0.37	1 SIN	1.30	-12.04	0.06	-9.75	-1.29	0.37
2 COS	-0.60	-5.54	-0.51	2.94	-2.55	-1.18	2 COS	-1.76	-14.51	-0.79	0.43	-0.82	-0.86
2 SIN	-0.25	4.88	-0.03	0.23	-2.07	-1.28	2 SIN	1.59	-10.38	-0.73	-1.89	-1.03	-0.06
3 COS	3.82	9.93	-2.75	1.12	0.11	1.50	3 COS	3.51	-5.10	3.03	2.72	1.70	-0.60
3 SIN	-2.50	3.80	4.02	2.16	3.22	2.77	3 SIN	-5.14	2.57	-1.68	2.98	1.25	1.87
4 COS	-5.81	1.50	-6.00	12.51	6.23	-4.95	4 COS	-11.89	1.40	-16.29	3.68	-13.05	-3.97
4 SIN	-8.16	-0.88	-15.80	6.12	-7.40	0.74	4 SIN	9.15	-10.31	-9.00	-11.44	-10.19	6.01
5 COS	0.21	-13.13	2.64	8.33	7.96	2.24	5 COS	-2.51	1.20	2.35	7.51	6.57	-1.71
5 SIN	-4.20	-0.08	-1.01	2.48	1.49	2.63	5 SIN	-4.49	19.69	-1.93	4.08	-0.48	0.09
6 COS	4.35	-13.26	-0.54	-19.28	-0.58	-1.44	6 COS	5.95	1.90	-1.76	-24.49	-3.11	-2.82
6 SIN	2.04	6.68	-0.57	2.16	-2.73	0.82	6 SIN	0.78	-22.58	-0.31	10.94	-6.85	2.47
7 COS	12.25	-0.95	0.61	-9.75	1.12	-2.78	7 COS	-12.36	-10.46	-1.69	-0.71	-4.92	0.56
7 SIN	-6.07	-9.89	-2.41	14.91	-1.27	-1.74	7 SIN	8.59	-2.57	-0.02	-23.77	-3.97	2.58
8 COS	-10.94	19.44	-2.48	7.06	-2.19	7.72	8 COS	-6.15	-13.59	2.37	15.58	-8.02	-2.55
8 SIN	1.48	1.22	5.19	-6.28	3.37	-4.33	8 SIN	-8.70	-14.12	0.67	1.44	-2.24	4.25
9 COS	2.21	0.36	0.37	-3.69	4.34	3.43	9 COS	-5.62	-5.07	2.72	13.64	1.77	0.51
9 SIN	-7.88	6.91	-2.15	17.21	14.57	2.48	9 SIN	2.65	40.71	-2.10	-11.50	17.84	3.83
10 COS	6.25	5.45	-4.57	-16.85	9.78	5.15	10 COS	0.38	-2.52	-1.05	-35.14	3.43	-0.91
10 SIN	0.74	-2.09	5.55	-9.94	-0.56	-2.37	10 SIN	1.77	-0.66	7.78	-2.63	-3.02	-3.28
11 COS	-0.35	-5.48	0.29	-12.11	0.92	0.27	11 COS	-5.23	10.74	2.36	9.48	-2.96	-1.86
11 SIN	2.90	17.27	-0.23	-5.94	-1.96	-2.53	11 SIN	-3.73	-15.98	1.15	-5.29	5.49	-1.25
12 COS	-7.11	-4.46	-2.63	-10.86	-19.14	0.85	12 COS	-9.86	-13.49	-1.18	9.07	11.49	2.52
12 SIN	-6.00	11.12	2.14	-4.89	-10.14	1.14	12 SIN	5.73	18.32	-1.58	10.78	-7.64	2.92

D149

ORIGIN OF PCOR QUALITY

## FFT COEFFICIENTS FOR DATA POINT

411

## FFT COEFFICIENTS FOR DATA POINT

412

HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
DC	-6.94 0.00	-66.80 0.00	-15.35 0.00	-7.93 0.00	-96.54 0.00	11.00 0.00	DC	-7.10 0.00	-97.54 0.00	-16.73 0.00	-7.28 0.00	-96.18 0.00	10.70 0.00
1 COS 1 SIN	-0.94 0.03	-2.95 22.27	0.67 0.85	19.92 -8.36	-0.91 -1.03	0.29 1.42	1 COS 1 SIN	-0.78 0.13	-28.67 -11.07	0.97 0.49	22.40 -7.77	-1.12 -0.69	0.80 0.95
2 COS 2 SIN	-1.50 2.62	0.20 18.36	0.33 1.62	-0.73 -2.54	-1.68 -1.88	-0.92 -0.95	2 COS 2 SIN	-1.75 0.92	17.78 7.22	0.13 1.37	0.35 0.19	-2.18 -1.96	-0.91 -1.16
3 COS 3 SIN	1.46 -4.78	-21.98 -10.74	4.41 3.20	3.63 3.16	0.44 2.01	0.02 1.85	3 COS 3 SIN	6.71 -4.46	-2.39 -11.82	3.33 4.50	3.16 9.86	-1.55 1.62	-0.51 1.06
4 COS 4 SIN	-7.03 5.49	-24.95 -2.41	-4.50 -17.67	1.77 -11.61	-4.35 -11.32	-7.08 3.31	4 COS 4 SIN	-4.96 18.73	-25.23 1.18	18.86 -9.38	-3.23 -20.34	13.71 1.28	-4.55 -2.51
5 COS 5 SIN	-6.93 -6.79	-16.61 24.98	2.09 -2.57	24.97 -3.97	6.02 -0.24	-0.86 1.31	5 COS 5 SIN	-1.43 -12.81	-6.87 -1.22	2.85 -2.40	23.16 22.62	6.47 0.58	1.60 0.00
6 COS 6 SIN	8.51 2.88	-8.75 8.85	-1.48 1.48	-41.22 21.79	-7.25 0.77	1.19 4.55	6 COS 6 SIN	0.47 1.76	-2.90 -0.26	-2.25 -0.17	11.97 6.10	-7.53 1.57	-1.97 7.52
7 COS 7 SIN	-1.46 -8.56	13.53 -10.46	-3.81 0.06	-1.86 -30.38	1.16 -7.53	-0.88 2.64	7 COS 7 SIN	2.90 5.06	-12.60 -3.46	-2.41 1.12	-13.15 -7.94	-4.48 -5.94	-0.50 -2.81
8 COS 8 SIN	3.89 -7.06	-1.75 20.68	-5.30 6.49	1.48 7.60	-0.34 -4.43	2.23 -3.05	8 COS 8 SIN	9.13 9.47	21.81 -22.76	-0.48 -12.80	-13.17 -5.29	0.42 3.65	-5.69 10.04
9 COS 9 SIN	-8.49 -0.35	9.11 -3.86	3.14 -1.68	12.35 15.19	-9.80 18.44	-0.62 4.24	9 COS 9 SIN	-5.18 7.16	-0.68 -1.06	2.18 -0.39	16.14 -8.77	-18.19 9.86	-1.92 3.84
10 COS 10 SIN	2.82 -1.01	-22.06 -10.43	-3.12 5.89	-23.59 -5.41	8.96 7.53	2.14 -3.14	10 COS 10 SIN	-0.68 2.21	1.51 -2.63	-1.87 7.35	13.26 -3.72	6.61 11.37	1.21 -3.66
11 COS 11 SIN	-5.28 2.99	5.45 -0.52	-5.82 -0.64	-1.59 -5.90	3.55 -0.56	3.23 -0.86	11 COS 11 SIN	-0.73 -10.37	-2.81 11.66	-4.10 -0.35	16.78 12.02	-2.83 0.59	2.23 -1.13
12 COS 12 SIN	-14.94 3.29	7.96 -11.71	1.87 0.16	12.13 8.89	0.86 19.36	-4.38 1.53	12 COS 12 SIN	6.39 -17.48	4.12 -0.62	0.51 1.05	-6.69 1.34	10.07 -2.29	6.07 -1.62

## FFT COEFFICIENTS FOR DATA POINT 413

## FFT COEFFICIENTS FOR DATA POINT 414

HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
DC	-3.93 0.00	-37.77 0.00	-15.64 0.00	-7.28 0.00	-9.620 0.00	10.56 0.00	DC	-5.99 0.00	-93.81 0.00	-16.86 0.00	-9.11 0.00	-94.94 0.00	10.26 0.00
1 COS 1 SIN	-0.16 -0.64	-10.13 -13.13	0.15 0.17	19.72 -7.02	0.45 -0.73	1.00 0.99	1 COS 1 SIN	-1.00 -0.39	-8.80 -4.02	0.15 -0.76	18.38 -7.96	0.05 -1.07	-0.08 0.51
2 COS 2 SIN	-4.94 -1.63	-7.77 0.78	-0.98 0.87	4.56 -3.84	0.79 -0.37	0.23 0.27	2 COS 2 SIN	-5.05 3.30	-6.64 19.55	-0.21 0.55	-1.15 -5.48	1.54 -2.60	0.18 -0.30
3 COS 3 SIN	3.52 -1.14	32.22 7.06	-2.84 -3.59	-1.07 -0.11	0.21 0.71	1.15 1.46	3 COS 3 SIN	2.25 -2.97	10.05 -12.33	1.47 -2.77	-2.08 -3.59	1.05 -1.22	-1.06 1.54
4 COS 4 SIN	-4.24 16.06	13.30 4.80	-0.98 -2.47	-6.23 -18.92	-2.57 1.43	-4.6 -6.6	4 COS 4 SIN	-4.38 -1.49	0.85 -21.42	-2.09 5.80	8.74 -7.44	-4.30 -0.09	1.69 -1.91
5 COS 5 SIN	-1.04 -6.19	-0.94 -5.84	2.40 -3.91	6.95 7.79	2.15 0.16	-5.7 -5.7	5 COS 5 SIN	-0.54 -7.03	-15.46 -3.74	2.77 -1.74	8.40 13.36	5.37 2.23	-0.22 2.86
6 COS 6 SIN	7.79 -0.56	9.95 -16.13	2.94 2.51	-7.97 25.22	-5.88 5.35	2.14 0.07	6 COS 6 SIN	-4.28 14.97	-15.60 8.67	-0.13 -0.99	-37.88 -35.90	-0.53 -5.19	-4.64 -4.62
7 COS 7 SIN	9.17 -2.13	-8.28 -5.14	1.50 1.16	-6.39 13.75	-1.96 3.51	-2.14 -0.20	7 COS 7 SIN	3.25 -15.09	16.52 2.66	-1.76 -1.21	21.05 22.07	-0.63 -5.59	-1.71 2.09
8 COS 8 SIN	3.59 4.42	2.76 27.72	2.93 -0.30	-10.31 -3.02	10.10 3.10	-1.04 -3.45	8 COS 8 SIN	-5.55 -5.88	-4.94 -3.62	2.16 6.98	1.36 1.83	1.36 3.53	1.74 -8.39
9 COS 9 SIN	-6.32 -4.08	-23.12 -9.87	-1.35 1.35	25.76 3.93	7.36 -1.77	5.05 -1.58	9 COS 9 SIN	3.51 -5.79	-2.94 -26.65	-2.50 1.41	-10.71 7.08	10.08 -9.11	2.75 -3.38
10 COS 10 SIN	5.47 2.04	-16.44 1.41	-2.05 7.85	-8.27 -10.51	-1.35 3.18	0.10 -3.10	10 COS 10 SIN	0.80 1.16	11.00 6.60	-5.02 5.79	1.12 -4.41	6.84 1.34	1.42 -1.61
11 COS 11 SIN	-2.73 8.44	-3.39 3.57	3.52 -0.39	-1.90 -16.35	6.17 0.55	-1.64 -0.01	11 COS 11 SIN	-6.78 -3.25	-2.55 15.26	-2.22 -1.50	18.00 -7.59	-0.75 -0.22	-0.64 -0.10
12 COS 12 SIN	2.90 -0.56	-11.49 -9.61	-0.52 2.57	0.90 13.36	-4.94 -7.87	4.60 -3.98	12 COS 12 SIN	11.67 -3.83	4.75 8.59	1.67 0.70	-11.20 9.57	1.87 11.45	-6.20 1.51

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FFT COEFFICIENTS FOR DATA POINT 415						FFT COEFFICIENTS FOR DATA POINT 416							
HARMONIC	ACC1	PLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	PLL1	ACC3	ACC4	ACC5	ACC6
0C	-5.45 0.00	-54.09 0.00	-16.76 0.00	-8.81 0.00	-95.29 0.00	10.92 0.00	0C	-6.55 0.00	-77.29 0.00	-16.45 0.00	-8.72 0.00	-95.88 0.00	10.65 0.00
1 COS 1 SIN	0.14 0.64	-5.21 -11.63	-0.03 -0.30	18.03 -8.88	-0.25 -0.63	0.51 0.76	1 COS 1 SIN	0.28 -0.10	-17.62 6.66	0.23 -0.21	20.26 -9.31	0.14 -0.69	-0.02 0.75
2 COS 2 SIN	-5.11 4.72	14.43 20.61	-0.57 0.76	-0.35 -7.65	0.05 -1.33	-0.09 -0.05	2 COS 2 SIN	-2.10 1.90	22.09 -16.95	0.58 0.10	0.77 -3.11	-2.35 -0.42	-0.91 -0.15
3 COS 3 SIN	5.33 -2.55	-4.96 -1.45	4.41 0.25	-2.77 3.88	0.86 1.09	-0.06 0.67	3 COS 3 SIN	2.12 -4.58	-12.62 -2.45	3.43 3.72	-0.89 -1.49	2.62 1.47	1.75 1.88
4 COS 4 SIN	-2.44 12.61	-22.53 5.03	-13.05 -19.67	-0.70 -21.64	-1.84 -16.59	-3.81 5.37	4 COS 4 SIN	-15.96 1.82	15.60 3.13	-21.82 7.18	17.26 -9.66	-19.68 0.65	2.83 5.92
5 COS 5 SIN	0.55 -6.88	-7.90 -6.68	0.14 -3.40	5.23 11.10	5.72 1.18	-1.04 4.46	5 COS 5 SIN	3.13 -2.48	9.68 -2.07	3.05 -2.29	-7.51 9.16	7.52 -0.29	0.88 1.32
6 COS 6 SIN	8.72 -7.72	6.96 13.01	0.06 -0.36	0.93 27.02	-2.22 0.73	1.71 0.62	6 COS 6 SIN	-3.61 1.93	4.24 -5.44	-2.30 -2.48	-7.26 -24.57	-1.22 -9.64	-5.63 1.11
7 COS 7 SIN	-8.59 -2.37	7.00 -0.98	-1.00 0.47	9.91 -11.76	-1.17 -0.80	0.14 1.28	7 COS 7 SIN	-2.73 8.63	-6.06 4.53	-0.41 -0.46	-12.51 -3.17	-0.46 -1.97	1.12 0.42
8 COS 8 SIN	7.50 -8.72	-14.30 -0.70	2.10 1.60	0.58 6.12	4.78 -5.25	-5.24 -6.50	8 COS 8 SIN	3.01 -10.04	-2.48 -19.70	-3.44 3.09	-3.32 3.94	-11.00 0.00	7.74 3.04
9 COS 9 SIN	-7.19 6.24	10.38 31.55	1.67 -2.87	16.04 -1.60	-3.13 3.26	-1.74 3.21	9 COS 9 SIN	8.96 4.99	12.91 10.76	-0.66 -3.24	-12.90 -5.56	-1.02 11.92	2.29 3.67
10 COS 10 SIN	0.05 0.91	-5.79 22.08	-6.55 4.84	-8.32 9.97	6.16 -12.58	3.43 -2.88	10 COS 10 SIN	2.79 2.99	-19.30 13.93	-1.13 4.32	-5.37 -14.27	2.54 6.13	-1.55 -1.56
11 COS 11 SIN	-4.83 6.35	-5.90 -9.83	-4.08 -0.42	-5.01 -14.42	0.76 -2.63	1.75 -0.22	11 COS 11 SIN	9.64 -10.10	10.76 -4.10	2.73 -1.08	3.08 11.73	-3.18 -1.43	-2.16 -2.28
12 COS 12 SIN	2.37 -11.30	-16.62 -5.33	2.53 -1.77	28.67 -11.29	25.97 4.27	-1.41 -1.87	12 COS 12 SIN	-14.15 12.04	0.45 8.63	-0.47 -1.49	-9.05 -3.72	-3.50 -1.44	1.14 2.15

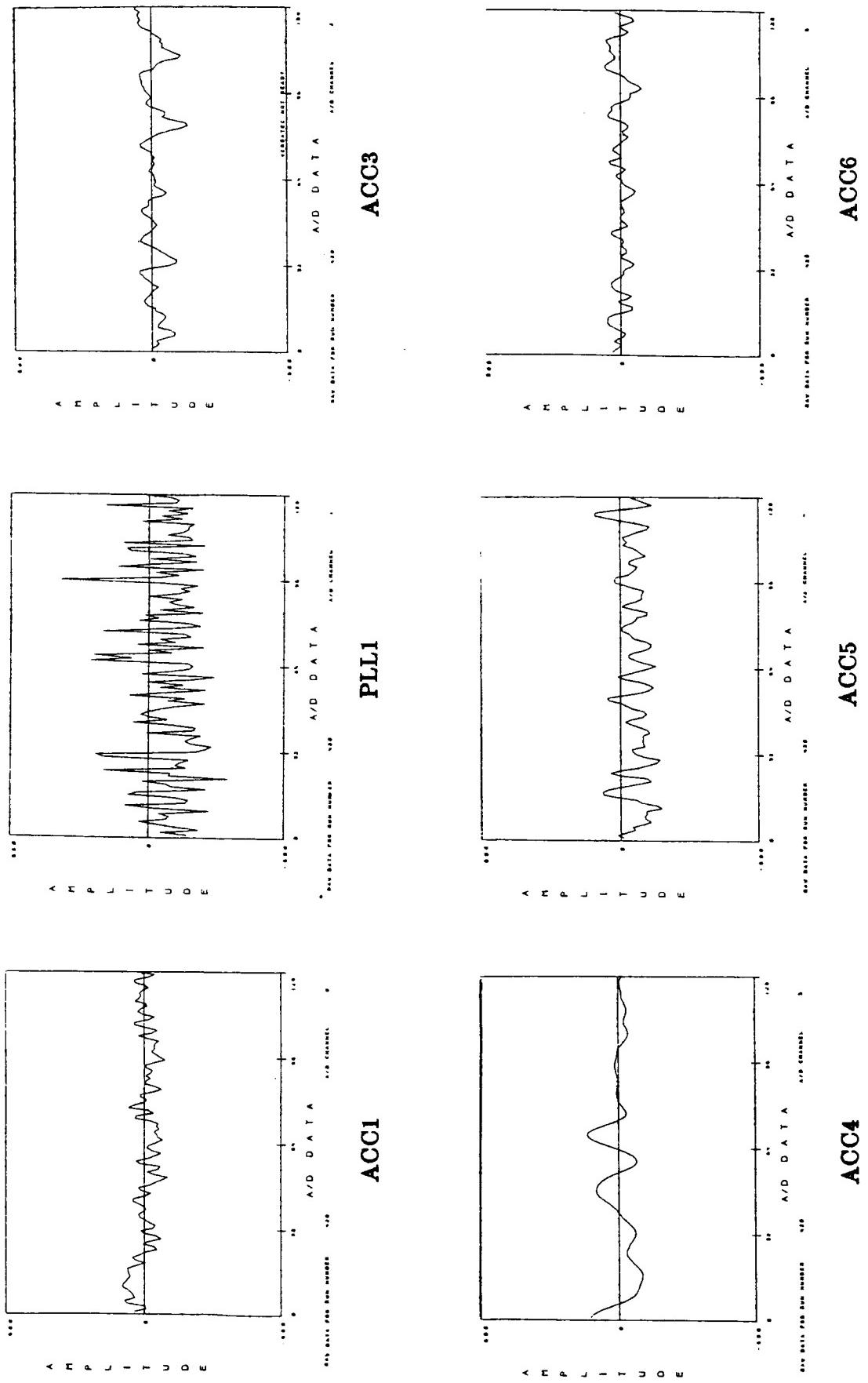
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## FFT COEFFICIENTS FOR DATA POINT 417

## FFT COEFFICIENTS FOR DATA POINT 418

HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
DC	-5.95	-110.71	-17.20	-9.65	-95.76	9.79	DC	-6.06	-121.01	-16.62	-9.55	-94.76	9.27
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 COS	-0.84	2.32	0.23	19.90	-0.21	-0.11	1 COS	-1.35	-6.75	1.62	21.67	0.14	-0.16
1 SIN	1.39	1.54	0.48	-8.07	-1.44	0.54	1 SIN	0.15	2.58	0.19	-7.53	-0.99	0.75
2 COS	-5.38	19.57	-0.99	-1.09	1.86	-0.19	2 COS	-2.58	0.89	0.07	0.07	-0.54	-1.20
2 SIN	5.68	11.17	0.78	-6.09	-0.81	-0.28	2 SIN	2.79	3.67	-0.21	-2.92	-2.83	-1.06
3 COS	4.31	-12.40	-1.16	0.64	0.08	0.28	3 COS	2.29	-20.18	3.99	-0.34	1.26	-0.54
3 SIN	-2.47	-1.85	3.24	4.27	0.33	1.18	3 SIN	-3.50	2.55	-0.20	-0.45	0.43	1.38
4 COS	8.88	12.42	-9.56	-13.09	-10.13	5.47	4 COS	5.24	16.64	7.95	-10.74	1.82	-1.59
4 SIN	5.24	-11.00	17.34	-5.74	7.98	2.17	4 SIN	12.61	-22.21	5.49	-11.54	12.17	0.68
5 COS	-3.18	4.22	1.86	10.34	4.69	-2.21	5 COS	-5.47	-2.21	-0.61	23.12	1.37	-1.40
5 SIN	-6.36	-24.27	-3.60	2.15	1.92	5.90	5 SIN	-10.36	-0.37	-3.32	8.70	2.64	5.14
6 COS	-9.08	3.41	0.57	26.24	0.94	3.05	6 COS	13.72	-32.33	1.50	-19.03	-3.23	1.06
6 SIN	-1.98	8.49	-0.13	-18.70	2.68	-4.01	6 SIN	-3.26	-4.75	0.16	39.86	7.03	4.03
7 COS	14.00	13.41	2.16	-18.97	4.55	-2.53	7 COS	-13.12	7.54	0.19	1.81	-2.12	2.95
7 SIN	2.66	16.69	-1.15	17.92	3.30	-2.54	7 SIN	9.73	-2.31	2.43	-31.30	-0.78	1.55
8 COS	-2.56	4.79	-7.47	-0.12	0.75	5.13	8 COS	-1.10	-0.34	4.42	1.09	7.76	-7.35
8 SIN	8.92	0.99	0.11	-6.02	-2.47	3.26	8 SIN	5.20	1.17	-5.93	-6.27	3.26	-1.66
9 COS	-0.42	-5.20	4.36	-9.27	-17.94	-2.11	9 COS	-9.05	3.23	0.44	18.22	-2.20	-1.38
9 SIN	-7.19	-1.88	-2.14	38.01	17.63	7.04	9 SIN	6.21	15.83	4.57	-23.48	-11.08	-4.50
10 COS	4.30	-1.73	-1.08	-27.33	10.09	0.42	10 COS	7.89	-26.19	-4.21	-17.53	2.01	2.16
10 SIN	5.42	-2.51	5.69	-3.90	8.46	-3.76	10 SIN	-7.15	7.01	6.24	35.16	-3.32	-1.26
11 COS	0.93	4.72	3.96	2.74	4.94	-1.71	11 COS	-2.62	-2.99	1.08	-13.28	4.33	-1.44
11 SIN	-7.29	13.21	-0.10	1.86	4.59	0.06	11 SIN	15.21	12.02	-3.03	-16.19	-5.75	4.20
12 COS	10.65	-13.73	2.85	-7.01	18.19	-2.71	12 COS	-26.22	0.08	-0.50	14.44	4.44	2.98
12 SIN	17.99	-7.86	-1.81	2.64	28.96	2.24	12 SIN	-4.83	8.18	1.88	1.71	-6.82	-3.35

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Figure D7

Analog presentation of vibratory response data for data point 420.  
 Data window is 1 rotor revolution, with 128 samples/rev.

## FFT COEFFICIENTS FOR DATA POINT

419

HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
DC	-3.91 0.00	3.52 0.00	-1.38 0.00	-0.23 0.00	-0.65 0.00	-0.27 0.00
1 COS 1 SIN	0.03 0.01	0.04 -0.02	0.01 -0.03	-0.04 0.00	0.07 0.01	-0.01 0.00
2 COS 2 SIN	0.03 -0.01	0.02 -0.02	-0.02 -0.04	-0.01 -0.01	0.05 -0.01	-0.02 0.06
3 COS 3 SIN	0.03 -0.02	0.01 -0.01	-0.01 -0.01	0.03 0.00	0.02 0.02	-0.05 0.03
4 COS 4 SIN	0.06 -0.01	0.30 -0.18	0.31 -0.14	0.02 -0.02	0.01 0.03	-0.01 0.00
5 COS 5 SIN	0.03 -0.01	0.03 -0.01	0.00 0.00	0.03 0.02	-0.01 0.01	0.02 0.00
6 COS 6 SIN	0.01 -0.03	0.01 -0.03	-0.01 -0.02	0.00 0.00	-0.01 0.05	0.04 -0.03
7 COS 7 SIN	0.00 -0.03	0.00 -0.01	0.01 0.00	-0.03 -0.01	0.09 -0.01	-0.07 0.01
8 COS 8 SIN	-0.02 -0.01	0.01 0.01	-0.02 -0.03	-0.01 -0.03	0.03 0.06	0.04 -0.04
9 COS 9 SIN	0.01 -0.01	0.00 0.02	-0.02 0.01	-0.01 -0.04	-0.01 0.02	0.04 -0.04
10 COS 10 SIN	-0.01 -0.01	0.03 0.01	-0.02 0.02	0.03 -0.02	-0.04 0.01	0.04 0.01
11 COS 11 SIN	0.01 -0.01	0.02 0.00	-0.02 0.01	-0.04 0.04	0.05 -0.06	0.02 -0.03
12 COS 12 SIN	-0.03 0.00	-0.01 0.10	-0.02 0.11	0.00 0.03	-0.04 -0.04	0.05 -0.01

DATA POINTS 419 THROUGH 471

Used to Calculate Local Transfer Matrix

Rotor RPM = 550  
 LSE Batch Size = 48  
 Forcing Amplitude Limit  $\pm 2.0^\circ$  Root Pitch

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FFT COEFFICIENTS FOR DATA POINT 420						FFT COEFFICIENTS FOR DATA POINT 421							
HARMONIC	ACC1	PLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	PLL1	ACC3	ACC4	ACC5	ACC6
DC	-6.09 0.00	-142.88 0.00	-15.55 0.00	-9.53 0.00	-96.88 0.00	2.24 0.00	DC	-5.30 0.00	-129.95 0.00	-15.20 0.00	-44.94 0.00	-101.70 0.00	-0.26 0.00
1 COS	24.93	-4.80	-0.52	-25.39	7.86	7.09	1 COS	26.11	-27.28	-0.43	-20.52	10.74	5.89
1 SIN	-10.52	6.79	-3.84	10.11	9.53	3.55	1 SIN	1.44	3.08	-1.84	62.49	16.29	3.88
2 COS	9.91	6.41	1.99	15.04	1.24	3.50	2 COS	16.43	-12.23	3.24	-16.04	5.10	0.92
2 SIN	-10.63	-8.80	7.44	14.02	5.19	-1.27	2 SIN	-8.26	13.34	4.11	33.85	8.45	0.12
3 COS	8.34	-8.59	-0.93	21.60	-0.91	-1.58	3 COS	12.88	16.41	2.09	7.07	10.25	-0.56
3 SIN	-0.49	-8.26	-2.50	0.73	-2.63	4.89	3 SIN	-11.70	6.45	-3.10	32.73	2.68	-2.82
4 COS	-13.57	7.39	11.17	10.87	-9.55	-11.90	4 COS	-9.66	7.66	3.43	-10.27	7.97	-3.45
4 SIN	-11.20	-11.10	4.97	-11.44	14.80	-5.50	4 SIN	9.18	6.77	6.03	-10.00	-4.52	-0.62
5 COS	-7.91	9.59	15.78	8.82	8.30	-3.96	5 COS	-7.19	16.86	10.11	4.89	10.68	-3.01
5 SIN	-5.19	21.91	37.97	22.98	17.70	-5.23	5 SIN	6.21	6.82	48.17	12.31	29.03	-8.19
6 COS	-3.81	7.67	-7.25	18.36	-0.35	6.02	6 COS	9.07	0.27	-1.73	-12.57	-11.01	8.01
6 SIN	6.90	-12.87	8.70	-26.95	9.88	-18.48	6 SIN	-17.49	10.72	-5.14	20.55	1.02	7.25
7 COS	5.21	-21.42	0.71	-4.32	5.77	4.86	7 COS	-3.00	3.59	3.51	16.02	-2.93	2.82
7 SIN	-5.40	3.47	-1.86	5.15	-1.91	4.39	7 SIN	-0.87	-16.42	-3.09	4.01	3.40	2.34
8 COS	-7.66	6.76	-6.21	8.85	13.03	-9.09	8 COS	-1.28	3.95	0.85	-3.01	10.02	-3.52
8 SIN	6.07	13.39	8.26	-16.69	-5.38	8.29	8 SIN	-1.37	3.30	-1.41	7.49	-1.56	6.06
9 COS	1.40	1.93	1.23	-0.24	-8.57	2.61	9 COS	3.38	-2.59	6.18	0.52	-13.70	5.01
9 SIN	-5.85	17.80	0.96	6.45	-4.58	-0.28	9 SIN	1.86	2.31	-1.45	1.95	-6.83	1.68
10 COS	0.08	-8.22	19.31	2.85	-4.12	14.52	10 COS	-0.39	-1.69	18.98	-0.13	-15.43	14.24
10 SIN	-1.55	-26.25	-6.16	-6.69	-7.65	-3.19	10 SIN	-2.52	-4.55	1.18	7.70	-9.48	-3.28
11 COS	-2.02	-12.88	-14.28	4.56	-12.66	7.40	11 COS	0.23	-21.12	4.69	2.27	17.39	-9.40
11 SIN	3.72	3.06	4.37	-3.25	-15.69	2.76	11 SIN	-2.29	-1.43	-0.59	-0.86	7.23	-2.94
12 COS	1.60	8.38	-3.55	-0.78	-2.24	5.39	12 COS	-0.45	-14.28	-12.88	-0.81	-18.41	3.58
12 SIN	-3.29	-9.82	6.91	-6.54	-13.92	-2.87	12 SIN	-3.00	8.40	6.47	0.45	6.28	-2.82

## FFT COEFFICIENTS FOR DATA POINT 422

## FFT COEFFICIENTS FOR DATA POINT 423

HARMONIC	ACC1	PLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
DC	-18.46 0.00	-129.07 0.00	-12.86 0.00	-54.94 0.00	-100.17 0.00	0.08 0.00	DC	-7.38 0.00	-116.80 0.00	-16.11 0.00	-11.22 0.00	-96.77 0.00	9.37 0.00
1 COS 1 SIN	20.39 0.28	-0.03 2.76	3.71 0.31	-7.44 50.54	15.64 16.41	7.02 3.80	1 COS 1 SIN	-0.12 -1.72	-2.50 7.73	-1.16 -0.58	9.23 18.33	0.99 -1.31	-0.95 0.87
2 COS 2 SIN	2.14 -3.60	16.12 1.49	-2.66 2.52	0.60 17.10	5.37 5.16	0.95 2.57	2 COS 2 SIN	3.52 -7.57	15.50 -20.86	1.15 -0.93	4.93 9.42	-5.19 0.23	-1.51 -0.99
3 COS 3 SIN	-6.40 -22.13	-7.46 -4.16	2.05 1.61	44.65 57.32	6.30 9.33	1.58 0.08	3 COS 3 SIN	-1.69 -2.13	-1.86 6.24	2.01 -4.32	-2.17 1.10	-0.77 -0.04	1.31 0.19
4 COS 4 SIN	1.52 -16.99	6.64 -15.89	3.30 -1.11	4.52 -6.06	8.80 -10.45	-7.16 -3.11	4 COS 4 SIN	7.60 -24.76	-3.26 -14.65	-14.83 -2.90	-13.14 15.54	-10.59 -11.41	0.43 -0.11
5 COS 5 SIN	-1.15 -2.39	29.54 21.97	12.63 47.13	13.40 26.55	2.24 44.64	-0.51 -.98	5 COS 5 SIN	2.69 2.70	20.99 9.67	1.47 -0.90	-15.51 -8.02	0.56 4.62	-2.23 1.55
6 COS 6 SIN	3.15 -0.78	3.75 -15.18	-1.52 -7.45	-8.40 -17.71	-15.28 -4.72	5.47 7.41	6 COS 6 SIN	23.42 -3.08	-4.86 16.44	7.43 2.60	-35.70 58.34	-9.16 16.50	4.18 -2.14
7 COS 7 SIN	1.57 -3.30	15.58 4.32	4.09 -3.02	9.93 19.86	-1.12 3.04	1.22 2.23	7 COS 7 SIN	-11.68 -4.58	-6.63 -0.62	-2.07 -0.21	17.57 -9.07	4.11 -2.73	1.86 0.03
8 COS 8 SIN	-6.51 0.28	8.05 -11.12	-4.72 0.62	-8.68 -2.17	-4.74 -20.20	-5.72 9.81	8 COS 8 SIN	-2.60 25.97	5.56 -5.64	10.16 -16.66	-13.05 -32.36	6.12 15.43	-8.95 8.78
9 COS 9 SIN	2.92 4.33	-3.04 -7.11	2.09 -1.28	2.93 -0.39	-14.49 -7.89	7.40 2.81	9 COS 9 SIN	3.91 -0.34	13.82 9.56	2.67 3.66	-14.55 -9.23	-10.20 -14.96	-5.52 -0.48
10 COS 10 SIN	4.56 2.29	15.63 -2.20	14.17 1.60	-4.32 -0.91	-11.15 -17.41	10.57 2.90	10 COS 10 SIN	-3.67 1.25	12.84 20.61	-1.73 0.13	-34.29 -49.02	-4.02 2.45	-7.71 1.29
11 COS 11 SIN	1.76 2.02	0.83 4.14	7.70 9.27	-8.72 1.98	15.79 9.88	-8.61 1.40	11 COS 11 SIN	16.10 10.46	1.55 3.10	-0.65 -2.47	-24.11 11.71	1.02 -8.38	2.63 3.23
12 COS 12 SIN	-1.21 -1.91	-1.45 -3.97	-2.60 4.05	1.82 2.28	-2.72 -1.44	-7.11 1.11	12 COS 12 SIN	-36.73 -9.20	-15.53 13.30	0.47 1.23	0.77 9.80	-6.71 -24.52	1.54 -7.06

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## FFT COEFFICIENTS FOR DATA POINT

424

## FFT COEFFICIENTS FOR DATA POINT

425

HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
DC	-7.42 0.00	-82.80 0.00	-16.41 0.00	-13.13 0.00	-95.63 0.00	9.18 0.00	DC	-7.21 0.00	-91.45 0.00	-16.53 0.00	-8.05 0.00	-97.11 0.00	7.63 0.00
1 COS 1 SIN	-0.35 -2.05	-2.69 -7.73	0.41 -0.07	12.50 19.86	1.63 -0.75	-0.26 0.68	1 COS 1 SIN	-0.79 -2.02	28.36 -32.36	-0.25 0.29	15.82 20.02	1.09 -1.46	-0.80 0.74
2 COS 2 SIN	-1.74 -1.03	21.65 14.77	0.92 -0.65	-0.58 -0.76	3.67 1.56	1.08 0.49	2 COS 2 SIN	0.14 -4.21	-0.40 -17.46	-0.09 0.23	6.28 4.92	-1.40 1.53	-1.94 0.47
3 COS 3 SIN	-6.06 1.09	14.35 8.63	0.78 -4.25	-4.58 -7.15	1.82 -3.46	1.84 -1.44	3 COS 3 SIN	-1.27 -0.37	-3.63 -14.25	-2.93 0.64	5.01 3.97	-1.50 -0.21	1.85 -0.36
4 COS 4 SIN	-4.45 -5.29	-20.78 -16.34	-36.65 8.74	-10.52 18.56	-25.14 10.82	3.06 20.17	4 COS 4 SIN	-16.17 -12.42	5.02 -1.91	22.20 35.60	-2.57 17.73	-3.42 19.18	12.79 -10.63
5 COS 5 SIN	-3.24 -2.45	7.96 1.26	3.26 1.64	9.79 -11.08	8.62 5.93	4.12 -1.29	5 COS 5 SIN	-2.32 -8.11	8.54 -23.08	1.95 -6.42	11.42 0.09	3.75 -0.35	-3.13 4.36
6 COS 6 SIN	-6.14 -5.43	5.53 -8.54	1.46 -1.46	10.14 -12.76	3.09 4.13	0.30 -1.16	6 COS 6 SIN	7.95 -13.13	-29.40 -3.68	-0.48 0.43	28.13 50.81	0.24 8.23	1.03 3.01
7 COS 7 SIN	-4.72 15.23	-15.17 2.51	3.98 -1.99	-21.59 -21.28	4.73 5.25	-2.41 -1.60	7 COS 7 SIN	-10.58 0.29	-20.19 7.27	-0.73 2.79	12.52 -10.94	-7.28 -0.15	1.58 1.13
8 COS 8 SIN	13.80 18.98	8.92 25.38	-3.74 -9.78	-16.84 -11.42	-0.84 -1.57	-0.97 7.97	8 COS 8 SIN	-2.31 -34.39	14.45 14.45	0.78 9.42	18.04 29.94	-3.42 -1.11	-0.81 -16.21
9 COS 9 SIN	-6.41 -1.55	-6.93 2.65	0.26 -2.87	14.26 2.70	-0.50 -17.17	-2.05 -1.46	9 COS 9 SIN	4.94 -12.35	-1.67 30.51	-1.04 -0.15	-24.14 40.46	2.74 12.93	3.97 0.45
10 COS 10 SIN	-0.10 -6.04	-12.32 8.14	-6.34 -3.64	-22.54 -0.70	5.04 3.32	4.92 7.19	10 COS 10 SIN	-13.83 -6.86	25.42 12.00	-5.91 -1.92	27.25 -20.22	24.49 -4.05	7.14 -3.13
11 COS 11 SIN	-7.96 -10.19	-10.27 17.23	2.70 1.87	27.38 3.15	7.55 -2.18	-1.16 -3.18	11 COS 11 SIN	2.40 -3.32	8.01 -8.79	-2.00 3.45	-3.61 3.88	-2.55 5.21	-0.22 -1.58
12 COS 12 SIN	-15.96 6.38	-8.04 -12.41	-2.61 1.76	21.89 16.72	-6.68 -1.80	7.08 -2.47	12 COS 12 SIN	18.20 -0.95	-16.71 10.66	2.50 -2.11	-8.96 -2.11	7.56 6.19	-9.19 -7.25

D158

## FFT COEFFICIENTS FOR DATA POINT 426

## FFT COEFFICIENTS FOR DATA POINT 427

HARMONIC	ACCO	FLL1	ACCS3	ACCS4	ACCS5	ACCS6	HARMONIC	ACCI	FLL1	ACCS3	ACCS4	ACCS5	ACCS6
DC	-4.98 0.00	-67.70 0.00	-16.82 0.00	-11.38 0.00	-94.93 0.00	8.51 0.00	IC	-6.32 0.00	-100.82 0.00	-16.07 0.00	-11.06 0.00	-97.28 0.00	8.60 0.00
1 COS 1 SIN	0.79 -0.86	-1.53 -0.84	0.10 0.60	13.82 16.84	2.64 -0.04	-0.06 0.90	1 COS 1 SIN	-0.66 -1.15	16.47 -2.72	0.26 0.70	14.78 16.80	0.61 -0.78	-0.53 0.70
2 COS 2 SIN	4.55 -1.97	-1.18 1.46	0.28 0.93	-1.19 6.40	1.50 -0.97	1.52 -0.56	2 COS 2 SIN	-1.04 -5.88	-1.57 -6.47	0.70 0.30	5.95 2.11	-0.82 2.86	-0.36 0.62
3 COS 3 SIN	-4.36 -1.50	-1.33 30.13	-2.09 1.84	3.45 -3.66	-0.62 -0.21	2.01 -0.84	3 COS 3 SIN	-2.82 -0.03	-3.23 1.43	-0.88 2.25	-4.33 -4.33	-1.37 1.08	-0.22 -0.22
4 COS 4 SIN	-6.52 9.60	-3.56 -16.06	3.14 -4.11	6.49 -24.65	1.65 -7.91	-2.99 -3.55	4 COS 4 SIN	2.79 -9.69	13.67 -22.10	10.42 22.01	-12.86 13.67	-8.70 18.35	1.21 -2.93
5 COS 5 SIN	3.49 -0.14	-30.48 2.56	5.98 0.50	-19.67 4.26	6.66 4.73	-2.71 -0.32	5 COS 5 SIN	-3.10 -10.64	11.53 -25.09	2.18 -5.44	19.07 5.41	2.06 1.85	-4.93 2.16
6 COS 6 SIN	-7.55 -6.03	-24.92 -10.05	0.90 -3.87	27.37 -15.18	8.93 -0.99	-0.35 -6.17	6 COS 6 SIN	-7.91 -8.02	-2.62 8.67	-2.61 0.14	36.11 -0.37	3.01 2.66	1.50 2.25
7 COS 7 SIN	4.69 20.76	29.04 27.09	2.21 -0.45	-38.08 -16.82	-0.85 0.78	0.66 -0.85	7 COS 7 SIN	0.45 -6.74	0.71 8.22	0.16 2.13	8.69 11.86	-6.13 3.86	4.55 0.00
8 COS 8 SIN	9.81 10.27	-13.36 -14.16	0.88 -16.06	-14.12 1.67	8.17 9.48	-0.11 9.02	8 COS 8 SIN	-0.64 -5.48	17.88 -17.28	6.51 5.71	0.41 3.15	-6.80 2.43	-6.55 -9.26
9 COS 9 SIN	4.75 -3.36	-20.54 -12.47	1.62 4.22	-22.89 11.25	-3.54 -21.74	-5.06 -6.24	9 COS 9 SIN	-6.87 -2.42	5.34 -10.05	1.14 -2.91	7.33 36.14	-3.80 9.79	-1.63 3.61
10 COS 10 SIN	-4.19 -0.82	17.58 -5.54	-4.75 2.76	-21.27 -9.58	-11.60 0.51	-0.46 -2.06	10 COS 10 SIN	-5.26 0.00	4.54 6.92	-5.14 -1.75	6.04 14.71	4.71 2.38	1.06 0.64
11 COS 11 SIN	-8.03 16.39	23.21 -26.99	2.40 0.44	-13.06 -23.52	11.73 -4.09	-4.32 -0.77	11 COS 11 SIN	4.30 -7.70	6.64 -27.13	0.53 2.69	1.46 15.34	3.30 0.83	1.31 -1.85
12 COS 12 SIN	11.87 -7.40	-4.14 -6.10	0.93 -1.18	2.24 -7.89	-5.30 9.93	-0.70 6.91	12 COS 12 SIN	-0.05 -9.98	-15.72 -26.24	-3.31 -3.58	-0.68 2.98	22.90 -20.64	2.29 2.37

D159

## FFT COEFFICIENTS FOR DATA POINT

428

## FFT COEFFICIENTS FOR DATA POINT

429

HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACCI	PLL1	ACC3	ACC4	ACC5	ACC6
DC	-5.20 0.00	-83.38 0.00	-16.16 0.00	-12.82 0.00	-95.98 0.00	9.11 0.00	DC	-6.49 0.00	-100.06 0.00	-16.91 0.00	-12.79 0.00	-95.34 0.00	8.90 0.00
1 COS	0.60 1 SIN	7.28 23.67	0.10 0.60	10.55 17.67	0.62 -0.62	-0.46 0.21	1 COS	-0.01 1 SIN	11.73 15.56	0.62 0.65	14.55 18.09	1.32 -0.39	0.03 0.67
2 COS	4.34 2 SIN	-11.75 -7.67	1.19 0.81	7.26 7.78	-0.85 1.02	0.27 -0.40	2 COS	2.41 2 SIN	-14.71 14.73	1.16 0.86	-3.56 -0.23	2.95 -1.83	1.98 0.10
3 COS	-2.57 3 SIN	-2.59 -1.66	1.03 -2.48	1.92 2.95	-1.13 -0.70	2.94 2.48	3 COS	-1.11 3 SIN	2.77 -11.44	3.74 2.66	-0.52 -0.20	0.69 -0.39	1.25 -2.75
4 COS	8.27 4 SIN	-15.11 -18.87	-12.23 -13.40	-17.90 11.92	11.63 -7.49	-3.76 -5.38	4 COS	-20.05 4 SIN	-14.41 5.07	-15.60 19.37	20.54 0.86	-14.37 -2.71	7.04 0.41
5 COS	7.38 5 SIN	22.27 0.60	-1.65 -6.40	-11.34 -2.39	2.37 3.79	2.07 5.71	5 COS	0.74 5 SIN	-11.07 -3.63	3.70 -1.18	-9.53 -11.21	7.09 3.69	1.63 1.44
6 COS	22.18 6 SIN	3.00 -5.37	-1.23 17.57	-39.97 0.53	-9.01 51.58	1.78 4.09	6 COS	1.14 6 SIN	-3.01 -5.52	1.29 -0.78	17.38 20.11	4.47 8.11	6.51 -3.04
7 COS	-4.34 7 SIN	-18.38 -4.53	0.92 -13.18	13.80 -4.37	12.98 1.32	-2.43 3.07	7 COS	-10.67 7 SIN	-5.27 15.05	1.30 8.69	-5.42 -0.66	4.97 -31.77	-3.36 -1.47
8 COS	-5.62 8 SIN	4.33 -0.45	0.95 5.66	-4.78 -4.33	-4.80 -12.54	2.12 7.74	8 COS	-4.60 8 SIN	-9.58 -3.61	-0.14 4.12	3.11 -3.27	-1.53 -5.81	6.31 11.40
9 COS	6.03 9 SIN	2.15 6.84	-1.80 -15.67	-18.31 0.10	11.77 -22.65	-1.19 -8.17	9 COS	2.21 9 SIN	16.89 9.55	-0.80 -15.53	22.03 -0.32	1.95 -25.92	-1.90 -6.83
10 COS	2.12 10 SIN	0.90 -3.75	-4.25 3.12	-12.51 -37.77	-19.20 0.79	-2.64 -1.57	10 COS	11.23 10 SIN	-0.63 -6.17	-8.24 17.65	-12.01 2.97	-5.02 7.21	5.26 -2.26
11 COS	23.00 11 SIN	0.60 -9.39	-0.83 -4.63	-13.45 17.05	1.68 -9.37	0.69 6.09	11 COS	-18.58 11 SIN	24.04 5.52	4.00 -1.62	-2.39 -2.14	-5.62 -29.71	-1.19 -1.71
12 COS	-38.76 12 SIN	-6.24 -8.89	1.68 0.65	-12.46 7.45	14.32 3.60	5.01 -3.57	12 COS	-7.43 12 SIN	9.44 9.39	-0.60 10.84	-25.87 -0.37	3.53 10.97	1.34 -14.42

D160

ORIGINAL  
OF POOR QUALITY

## FFT COEFFICIENTS FOR DATA POINT

## FFT COEFFICIENTS FOR DATA POINT

## 430

HARMONIC	ACC1	PLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	PLL1	ACC3	ACC4	ACC5	ACC6
DC	-4.77 0.00	-79.68 0.00	-16.34 0.00	-12.30 0.00	-97.35 0.00	7.25 0.00	DC	-7.07 0.00	-63.45 0.00	-15.27 0.00	-11.55 0.00	-96.41 0.00	8.31 0.00
1 COS 1 SIN	-0.42 -0.59	10.48 -9.90	1.07 0.33	12.47 19.22	0.24 -0.78	-0.83 0.27	1 COS 1 SIN	0.11 -1.94	3.95 2.33	0.67 0.64	13.20 18.27	-0.20 -1.55	-0.41 0.18
2 COS 2 SIN	-2.34 -0.35	-1.88 -0.98	1.43 0.11	3.06 -3.00	0.10 1.78	0.18 1.12	2 COS 2 SIN	-0.83 -0.83	-15.91 38.47	1.58 1.20	0.33 2.62	-0.53 0.75	-0.12 0.24
3 COS 3 SIN	-2.16 -1.37	-7.88 20.21	2.60 2.58	0.73 0.60	1.20 -0.02	2.82 -2.53	3 COS 3 SIN	-2.21 -1.61	-9.87 19.79	1.54 3.76	5.80 -0.74	-0.10 0.42	2.22 -1.81
4 COS 4 SIN	-24.09 -2.02	9.71 17.00	-11.69 15.12	4.83 14.50	-24.78 14.98	-2.71 6.42	4 COS 4 SIN	1.26 8.02	9.54 -1.64	15.59 32.30	11.16 -11.70	12.13 27.47	21.97 -2.01
5 COS 5 SIN	2.01 -10.41	-7.15 11.88	3.58 2.19	7.69 12.03	1.06 0.85	-2.40 1.27	5 COS 5 SIN	-5.12 -6.86	-14.06 -23.18	2.93 -6.57	10.52 -5.34	3.18 -1.15	-2.71 0.81
6 COS 6 SIN	-11.46 -10.89	-8.44 -12.87	0.65 -1.69	53.62 9.67	5.45 1.57	-1.05 -1.64	6 COS 6 SIN	-5.98 3.93	-10.74 -2.88	-1.75 -0.92	2.36 -22.32	7.11 -2.17	-3.25 -1.59
7 COS 7 SIN	-4.42 4.61	11.17 -0.84	1.18 4.15	5.40 -12.85	-11.57 4.48	3.38 0.15	7 COS 7 SIN	-2.81 -18.29	8.59 6.41	-0.99 0.32	32.99 15.60	-2.17 4.71	-0.53 -1.79
8 COS 8 SIN	2.92 -17.47	6.62 8.34	-1.79 12.89	14.56 8.80	-17.86 4.64	4.07 -0.86	8 COS 8 SIN	-13.51 6.04	-36.65 20.23	9.01 7.21	-3.19 -15.52	5.82 5.46	-0.73 -21.37
9 COS 9 SIN	-2.63 -0.32	-25.60 16.01	1.76 -2.79	10.22 -3.31	3.18 6.72	0.65 2.09	9 COS 9 SIN	2.79 -1.33	13.84 -6.27	-4.78 -0.13	-6.41 25.36	12.68 2.93	7.37 -3.12
10 COS 10 SIN	5.03 -6.22	-18.84 -4.44	-7.89 2.75	26.96 12.54	-12.51 -4.05	2.64 -4.84	10 COS 10 SIN	-2.28 2.07	-15.34 14.18	-1.49 -1.34	3.82 -0.23	8.70 1.58	-2.50 -1.01
11 COS 11 SIN	-5.36 -4.15	-16.44 9.80	0.70 2.91	10.16 3.05	-6.02 -3.61	-1.62 1.75	11 COS 11 SIN	8.40 -8.69	-19.70 5.77	-2.25 5.12	5.66 18.01	-6.07 -0.99	1.60 -4.23
12 COS 12 SIN	-7.64 -37.89	-3.68 24.77	-2.82 -0.23	15.65 -10.49	1.626 2.68	8.76 -10.49	12 COS 12 SIN	-34.07 -11.92	2.99 2.55	1.25 -4.19	-19.72 -4.83	35.04 -9.01	-0.36 0.04

ORIGINAL  
OF POOR  
QUALITY

D161

## FFT COEFFICIENTS FOR DATA POINT

432

## FFT COEFFICIENTS FOR DATA POINT

433

HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
0C	-8.77	-85.18	-15.02	-13.70	-97.92	7.61	DC	-8.02	-102.11	-16.55	-14.08	-96.79	7.75
1 COS	-1.01	-4.66	0.79	14.41	1.83	-0.87	1 COS	-1.27	4.35	-0.63	11.26	1.55	-0.23
1 SIN	-1.23	12.50	0.12	18.81	-0.31	0.30	1 SIN	-0.31	3.80	-0.05	20.33	-0.53	0.17
2 COS	-0.54	-27.91	0.84	1.03	1.82	0.04	2 COS	-4.09	-10.88	-0.37	4.34	0.69	-0.14
2 SIN	-3.13	-8.51	0.35	3.74	-0.30	-1.23	2 SIN	-2.24	2.81	-0.80	-2.83	0.09	0.31
3 COS	-5.73	3.43	5.35	4.46	3.73	2.15	3 COS	-2.14	-36.19	-3.16	-5.93	0.89	2.21
3 SIN	-3.41	-2.77	0.02	-4.01	-0.88	-1.90	3 SIN	-1.66	-11.73	-3.29	1.55	-1.78	0.34
4 COS	-5.62	-22.68	-11.60	4.97	-9.30	-10.00	4 COS	-5.20	48.76	-14.27	-6.32	-16.78	9.76
4 SIN	12.78	9.69	-22.91	-19.29	-15.40	5.36	4 SIN	-15.97	23.55	27.85	26.78	25.77	10.18
5 COS	2.81	3.06	5.05	5.86	5.65	-0.67	5 COS	-8.42	3.94	0.83	18.48	5.93	-1.87
5 SIN	-7.70	-19.00	-0.26	17.76	4.95	-0.66	5 SIN	-4.92	28.50	-3.27	-13.87	1.85	3.71
6 COS	-10.71	5.14	0.28	19.68	9.50	-6.21	6 COS	9.40	-6.90	0.20	-11.07	-6.18	4.02
6 SIN	5.02	13.80	-3.66	-30.77	2.92	-0.91	6 SIN	-2.32	-1.57	1.89	20.41	-4.04	2.51
7 COS	12.19	16.03	1.82	-16.27	-5.15	1.65	7 COS	-7.74	-11.75	-1.59	21.51	0.57	-0.44
7 SIN	2.14	12.33	2.04	20.19	5.73	-1.64	7 SIN	-9.55	-22.44	1.46	-0.81	-2.63	0.32
8 COS	-5.11	14.75	-0.65	9.51	1.91	-2.67	8 COS	14.93	5.37	-6.52	-11.54	2.06	12.18
8 SIN	-2.77	8.17	7.08	-2.32	-8.95	-5.68	8 SIN	-1.70	-24.52	2.62	10.65	5.00	-1.02
9 COS	0.16	9.80	4.27	-6.84	-13.74	-0.55	9 COS	4.07	-19.23	0.96	-23.92	-9.57	-0.10
9 SIN	-10.94	-8.53	1.86	20.44	16.90	2.28	9 SIN	1.71	13.54	-0.51	-1.53	-6.31	1.61
10 COS	-7.92	1.94	-5.97	24.63	-6.27	2.88	10 COS	0.16	-1.83	-7.60	-7.87	6.94	10.06
10 SIN	-3.98	20.93	1.28	-16.61	9.91	-0.65	10 SIN	-3.96	-12.63	-2.18	15.47	12.12	2.57
11 COS	6.24	-12.98	-2.82	-0.16	-8.04	-0.79	11 COS	8.32	-13.42	0.55	5.30	-5.01	-1.74
11 SIN	1.26	3.57	1.89	7.17	-4.64	-0.14	11 SIN	-7.94	1.29	5.40	14.04	-0.32	-2.49
12 COS	-17.86	8.96	2.82	3.02	-4.77	-3.58	12 COS	-5.30	9.53	2.05	-3.95	-18.15	-3.11
12 SIN	-0.72	-9.40	1.09	10.52	23.45	-2.84	12 SIN	8.40	-14.88	1.38	1.28	15.27	-1.25

## FFT COEFFICIENTS FOR DATA POINT

434

## FFT COEFFICIENTS FOR DATA POINT

435

HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
DC	-9.11 0.00	-93.92 0.00	-17.07 0.00	-12.96 0.00	-97.41 0.00	7.80 0.00	DC	-9.60 0.00	-84.83 0.00	-15.87 0.00	-14.79 0.00	-97.66 0.00	7.11 0.00
1 COS 1 SIN	-1.35 -1.85	-35.12 -6.63	-0.91 -0.51	13.29 18.98	0.49 -0.70	-0.60 0.05	1 COS 1 SIN	-0.71 -0.71	17.65 -10.82	0.38 -0.49	12.49 16.53	1.98 0.05	-0.55 0.37
2 COS 2 SIN	0.32 -3.51	3.82 1.206	-0.49 -0.22	2.32 4.90	1.07 1.84	0.78 0.65	2 COS 2 SIN	-1.39 -6.99	-23.21 0.47	0.64 -0.91	4.86 3.76	2.20 3.59	-0.10 0.97
3 COS 3 SIN	-4.92 -1.22	-8.23 14.78	-4.18 -0.06	5.50 0.17	-0.91 -0.30	2.31 0.36	3 COS 3 SIN	-5.60 1.36	-0.08 -19.46	3.52 -2.76	-5.38 -5.41	2.89 -1.84	1.14 -2.11
4 COS 4 SIN	-11.65 -1.80	-17.55 12.58	29.12 -22.71	9.12 -2.01	16.40 0.43	-11.25 -7.72	4 COS 4 SIN	8.64 -2.89	3.59 12.64	-18.84 -5.97	-15.72 3.21	-15.54 -4.29	-3.27 7.09
5 COS 5 SIN	4.48 0.51	17.84 3.71	-2.01 0.74	-16.50 8.28	2.08 5.21	4.56 5.16	5 COS 5 SIN	-5.42 -12.63	-18.16 2.51	3.04 -2.51	31.60 11.97	4.50 4.86	-3.66 2.75
6 COS 6 SIN	0.36 -11.14	7.89 -12.89	2.37 -0.16	35.16 15.12	0.73 2.47	-0.12 -5.91	6 COS 6 SIN	-4.14 7.91	-13.06 5.53	-1.44 0.98	1.93 -32.16	0.97 -4.05	0.97 1.13
7 COS 7 SIN	-1.84 -6.44	0.98 16.08	2.14 1.38	-12.38 -11.15	-5.52 2.50	0.06 -3.91	7 COS 7 SIN	-2.85 -3.07	0.19 11.97	-0.54 0.33	10.36 -0.74	0.72 1.66	2.62 -1.73
8 COS 8 SIN	-12.20 10.57	-5.53 -9.87	4.10 -7.13	-1.22 -9.60	-0.60 13.41	-3.25 6.35	8 COS 8 SIN	-5.64 4.96	4.89 20.07	8.76 4.40	-2.20 -7.44	-3.10 8.95	-1.17 -2.38
9 COS 9 SIN	6.58 7.59	11.63 7.71	2.11 1.28	-22.77 -24.40	-5.92 -10.80	-2.62 0.98	9 COS 9 SIN	-3.04 3.71	17.28 -7.94	-0.19 -2.14	10.90 -8.82	16.26 12.43	4.24 0.32
10 COS 10 SIN	17.54 -3.23	-20.81 -2.73	-6.52 1.62	-31.89 -4.80	-24.28 -3.60	-2.35 3.86	10 COS 10 SIN	4.94 1.61	-1.30 19.41	-3.02 -0.54	-25.67 8.28	-2.18 8.21	-1.00 -0.41
11 COS 11 SIN	-0.94 4.29	11.44 7.99	0.56 -0.19	-14.46 -8.34	2.10 -4.01	-1.11 1.94	11 COS 11 SIN	-9.48 -7.49	-7.45 -12.18	-1.72 -3.32	18.11 -4.49	-1.69 3.46	2.20 3.38
12 COS 12 SIN	1.64 3.73	-17.91 -10.06	-2.87 -3.76	-3.50 -14.70	16.90 -23.60	0.85 4.42	12 COS 12 SIN	16.24 -7.95	-1.68 12.97	-2.71 0.60	-3.76 -6.77	-2.89 -6.98	5.12 1.87

ORIGINAL  
OF POOR  
QUALITY

D163

## FFT COEFFICIENTS FOR DATA POINT

## 436 FFT COEFFICIENTS FOR DATA POINT

HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
DC	-7.70 0.00	-118.66 0.00	-16.11 0.00	-12.88 0.00	-96.86 0.00	7.01 0.00	DC	-8.26 0.00	-77.40 0.00	-15.39 0.00	-14.45 0.00	-97.45 0.00	7.20 0.00
1 COS 1 SIN	-0.04 -1.22	-2.90 -14.97	0.20 0.51	14.94 15.93	1.05 -0.07	-0.59 1.06	1 COS 1 SIN	-0.24 -1.51	-2.77 -15.75	0.44 -0.12	14.69 18.50	0.62 -0.71	-0.62 -0.38
2 COS 2 SIN	2.26 -7.71	-1.98 -2.51	-0.29 -0.94	6.20 6.63	-0.93 1.64	-1.59 0.37	2 COS 2 SIN	-0.23 -6.22	4.86 -0.46	0.65 -1.16	5.08 5.12	-0.60 0.89	-1.01 -0.93
3 COS 3 SIN	-3.87 -0.32	2.56 2.37	-0.24 -5.17	0.84 -1.12	0.52 0.01	1.30 -0.21	3 COS 3 SIN	-4.09 -1.94	-1.17 5.90	4.26 -2.17	-1.20 -2.60	-0.60 -0.92	-1.01 -0.28
4 COS 4 SIN	4.80 4.68	15.22 -0.98	-18.26 -9.65	-3.74 -16.04	-15.33 -17.03	-3.76 1.53	4 COS 4 SIN	10.99 6.19	2.75 9.09	-21.45 -16.36	-8.56 -13.73	-15.16 -22.38	-1.39 3.03
5 COS 5 SIN	2.61 -10.63	-1.12 -18.89	4.09 0.02	7.30 22.18	4.50 7.59	-1.16 0.63	5 COS 5 SIN	3.83 -9.21	-0.26 -15.43	2.37 -0.61	10.87 27.54	5.44 5.98	1.57 2.60
6 COS 6 SIN	-4.39 -1.68	10.31 31.64	1.13 -0.41	20.04 -11.51	4.98 2.31	1.73 -1.46	6 COS 6 SIN	-9.15 -3.92	-7.07 15.90	1.41 -1.39	27.52 -15.62	2.07 4.98	-0.63 -4.58
7 COS 7 SIN	-1.62 19.82	13.45 15.71	-0.77 0.51	-25.14 -20.97	2.30 -1.95	4.22 -1.95	7 COS 7 SIN	-9.49 18.17	9.30 13.73	1.94 1.42	-11.67 -28.94	0.38 5.56	1.89 -4.47
8 COS 8 SIN	2.87 -0.53	-8.74 -4.52	-5.33 -9.67	-3.10 11.27	7.65 -2.10	-1.82 11.54	8 COS 8 SIN	-2.82 0.29	-15.93 -6.33	1.03 -5.07	1.98 2.94	-3.01 -1.40	-7.80 8.58
9 COS 9 SIN	3.44 0.70	-13.41 2.83	5.37 2.08	-5.55 -22.64	-21.29 -3.82	-6.89 4.37	9 COS 9 SIN	3.25 2.85	17.91 23.28	4.41 1.35	-3.84 -11.82	-16.25 -6.55	-7.53 0.74
10 COS 10 SIN	4.48 -4.25	9.38 26.50	-7.13 -0.02	-29.13 -0.06	-2.62 -12.00	2.23 1.34	10 COS 10 SIN	4.76 -4.00	1.56 -0.88	-7.05 -1.57	-27.25 4.69	0.07 -3.74	5.16 0.00
11 COS 11 SIN	0.10 -1.25	-9.65 2.12	1.36 -3.40	10.74 3.96	-2.88 2.31	-1.30 2.46	11 COS 11 SIN	0.68 -11.30	-11.67 -3.65	5.59 -1.07	11.66 8.00	2.35 5.24	-3.94 0.86
12 COS 12 SIN	-16.06 0.01	12.50 -5.02	0.70 1.68	-0.85 -24.29	-21.29 -11.06	-1.57 -5.51	12 COS 12 SIN	-26.33 -1.71	17.80 26.44	0.85 -1.48	-1.43 -14.08	-12.39 -1.42	-3.47 -1.42

D164

## FFT COEFFICIENTS FOR DATA POINT

438

## FFT COEFFICIENTS FOR DATA POINT

439

HARMONIC	ACC1	PLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	PLL1	ACC3	ACC4	ACC5	ACC6
DC	-9.02 0.00	-101.24 0.00	-17.00 0.00	-16.00 0.00	-97.75 0.00	7.73 0.00	DC	-9.77 0.00	-115.20 0.00	-16.51 0.00	-14.25 0.00	-96.62 0.00	7.30 0.00
1 COS 1 SIN	0.67 -0.93	20.73 -7.89	0.45 -0.34	12.46 17.67	1.14 -0.64	-0.44 0.39	1 COS 1 SIN	0.06 -1.60	14.13 3.28	0.38 0.10	10.39 18.73	1.53 -0.93	-0.10 -0.03
2 COS 2 SIN	1.16 -7.14	-20.24 -6.82	0.60 -0.45	3.84 6.75	-1.43 0.86	-0.43 -0.88	2 COS 2 SIN	0.39 -0.89	8.62 -18.05	-0.18 -0.44	-1.58 -0.98	3.27 3.17	1.34 1.80
3 COS 3 SIN	-4.80 -0.35	-4.73 13.22	4.01 -0.97	-4.64 -4.16	2.16 -0.03	1.69 -0.95	3 COS 3 SIN	-0.95 -2.97	40.57 -18.52	0.51 2.54	-0.09 5.95	-1.63 -0.26	2.74 -2.45
4 COS 4 SIN	11.71 6.82	-11.16 7.51	-22.87 -17.40	-10.92 -16.22	-15.91 -22.46	-7.19 3.95	4 COS 4 SIN	-23.06 -10.04	-0.03 4.10	23.86 3.87	19.28 22.69	15.03 16.45	1.03 -3.65
5 COS 5 SIN	5.92 -9.97	-5.21 14.85	0.60 -0.46	0.90 31.10	2.89 6.70	0.90 2.67	5 COS 5 SIN	-2.14 1.51	-11.72 -25.32	0.55 -3.15	-5.33 -12.87	1.21 2.62	-2.23 7.19
6 COS 6 SIN	-4.81 -3.55	-13.31 -3.30	1.89 -0.57	28.68 -7.09	5.47 5.64	-1.47 -5.58	6 COS 6 SIN	4.38 -4.92	21.27 9.06	2.10 -0.54	9.21 19.53	-4.55 11.06	1.93 -2.21
7 COS 7 SIN	-11.68 10.68	-9.66 2.53	1.99 -0.21	0.59 -21.55	2.21 3.01	2.85 -4.24	7 COS 7 SIN	-11.47 3.19	-7.00 35.20	-0.44 0.67	9.50 -19.91	0.32 2.91	3.34 -4.57
8 COS 8 SIN	-9.29 2.37	7.41 9.81	1.11 -5.33	3.42 -4.04	-1.49 -1.48	-7.26 9.23	8 COS 8 SIN	-3.11 0.32	-4.25 6.61	0.51 -1.62	0.41 3.56	-3.85 -0.66	-4.46 6.64
9 COS 9 SIN	0.00 4.29	20.20 29.75	4.72 2.56	0.97 -24.90	-23.45 -12.57	-9.27 1.17	9 COS 9 SIN	-2.04 -5.61	-2.59 -15.97	1.98 -1.41	-1.96 5.22	-11.40 7.31	-1.14 4.91
10 COS 10 SIN	2.56 -2.66	4.23 9.11	-9.77 -0.22	-33.06 -13.97	0.54 -3.34	7.04 -1.76	10 COS 10 SIN	-0.94 8.48	-10.11 24.08	-9.03 3.25	16.11 -41.58	-9.17 -13.47	1.87 -4.35
11 COS 11 SIN	10.40 -13.55	-4.75 -8.28	0.50 -2.03	11.62 17.06	-1.50 6.03	0.62 0.90	11 COS 11 SIN	-2.74 -2.76	5.57 -10.89	1.66 -2.83	0.86 -2.82	-0.31 -3.72	-0.70 4.48
12 COS 12 SIN	-25.30 -5.87	35.65 8.96	2.60 -0.22	1.17 -6.89	-2.35 -16.07	-6.32 -2.06	12 COS 12 SIN	21.54 11.58	2.57 3.90	-2.03 1.26	13.98 -0.89	-11.33 -3.27	0.87 -4.24

D165

**ORIGINAL  
OF POOR  
PARK  
QUALITY**

## FFT COEFFICIENTS FOR DATA POINT 440

HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	AC1	FLL1	AC3	AC4	AC5	AC6
DC	-6.24 0.00	-95.51 0.00	-16.51 0.00	-12.02 0.00	-97.20 0.00	7.03 0.00	DC	-7.75 0.00	-108.05 0.00	-16.13 0.00	-98.04 0.00	6.87 0.00	6.87 0.00
1 COS	-0.49	0.55	-0.80	12.18	0.81	-0.90	1 COS	-0.13	-3.74	0.28	11.84	0.25	-0.62
1 SIN	-1.34	21.78	0.29	19.47	-0.92	0.45	1 SIN	-1.84	6.25	0.11	18.73	-1.61	0.48
2 COS	-0.62	-13.60	-1.33	4.32	-0.44	-0.71	2 COS	-0.82 -1.81	0.96 -17.03	0.58	-1.92	2.60	1.43
2 SIN	-2.09	-3.79	0.28	0.42	1.92	0.85	2 SIN	-0.78	-1.22	2.70	0.90	0.90	0.90
3 COS	-0.50	-5.11	-1.74	-0.52	-1.67	2.13	3 COS	-0.15	-26.14	2.68	-4.82	-0.11	0.73
3 SIN	-2.18	-1.18	1.02	4.14	0.00	0.20	3 SIN	-2.86	26.25	-3.07	7.90	-1.89	-1.55
4 COS	-0.21	2.67	-7.56	-5.89	-3.79	16.50	4 COS	9.86	7.84	18.49	-6.69	17.19	8.61
4 SIN	-25.18	19.32	22.82	22.65	14.05	1.21	4 SIN	-20.43	-9.76	14.37	10.11	17.71	-4.08
5 COS	-1.69	17.34	-0.58	7.71	2.15	-1.65	5 COS	-4.17	0.34	-2.53	14.53	-3.75	-4.54
5 SIN	-4.14	-14.79	-1.91	-0.53	3.47	0.82	5 SIN	-4.77	16.30	-4.10	-6.51	1.26	7.17
6 COS	19.15	-1.87	1.92	-36.40	-12.91	83	6 COS	11.32	-14.52	-0.82	-53.23	-9.15	-0.08
6 SIN	-1.73	20.82	2.87	45.19	1.74	.55	6 SIN	11.45	-14.26	2.11	6.12	-4.18	9.22
7 COS	-8.32	-15.11	-1.93	27.43	1.86	-2.80	7 COS	-11.30	20.98	-1.69	44.15	4.11	-1.79
7 SIN	-17.03	13.21	-0.43	2.52	-8.39	0.65	7 SIN	-26.31	-0.72	-0.68	18.73	0.45	0.92
8 COS	15.24	-9.61	-4.00	-8.63	-10.57	2.79	8 COS	22.41	17.60	-4.68	-22.41	6.16	2.76
8 SIN	-6.77	-12.11	4.16	7.98	-9.24	-3.68	8 SIN	17.16	3.35	-3.38	0.26	-10.95	4.05
9 COS	8.86	18.55	0.95	-39.62	-3.56	0.53	9 COS	2.17	4.15	2.70	-8.89	-25.65	-1.77
9 SIN	4.06	13.85	-0.45	-1.79	-10.08	-1.43	9 SIN	-1.09	9.66	1.15	8.23	8.64	3.93
10 COS	0.63	-8.70	-7.60	-7.10	-5.53	7.04	10 COS	0.96	-7.72	-12.81	-0.96	-12.18	7.79
10 SIN	-6.69	-10.22	1.31	0.92	13.16	1.88	10 SIN	-1.96	-9.29	1.22	1.14	-11.41	1.50
11 COS	21.34	17.57	2.00	-4.62	-9.57	-5.46	11 COS	11.78	-8.11	3.68	-23.30	4.10	-4.31
11 SIN	-6.31	-15.39	3.74	28.10	4.96	-1.33	11 SIN	18.75	19.61	-1.19	0.44	2.85	0.24
12 COS	-6.16	-22.98	0.86	5.23	-10.99	-1.07	12 COS	9.92	-14.28	-1.68	-20.06	11.73	-1.91
12 SIN	21.34	27.27	0.34	11.55	3.27	-0.42	12 SIN	-17.17	12.93	-0.49	3.74	-31.43	2.80

D166

ORIGINAL PAGE IS  
OF POOR QUALITY

## FFT COEFFICIENTS FOR DATA POINT 442

## FFT COEFFICIENTS FOR DATA POINT 443

HARMONIC	ACC1	PLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	PLL1	ACC3	ACC4	ACC5	ACC6
0C	-7.68 0.00	-103.35 0.00	-15.57 0.00	-15.57 0.00	-97.25 0.00	6.71 0.00	0C	-9.41 0.00	-76.87 0.00	-16.77 0.00	-13.83 0.00	-95.19 0.00	7.42 0.00
1 COS	-0.41	2.78	0.73	12.23	0.69	-0.46	1 COS	-1.61	-36.32	-0.51	14.86	2.03	0.22
1 SIN	-0.29	-16.46	0.12	19.80	-2.12	0.51	1 SIN	-1.61	8.39	-0.07	19.25	-1.08	0.33
2 COS	0.56	8.35	1.69	1.46	-2.31	-0.55	2 COS	1.84	16.51	0.42	4.71	-0.28	0.18
2 SIN	-3.91	6.43	0.40	1.40	0.78	0.62	2 SIN	-4.52	-2.04	-1.46	5.54	-0.64	-0.64
3 COS	-1.36	9.38	2.32	-2.49	1.45	2.09	3 COS	-4.95	-11.01	1.00	5.97	1.21	2.64
3 SIN	-1.24	0.38	1.96	0.34	1.95	-1.28	3 SIN	-2.83	6.37	-3.58	0.48	0.56	1.04
4 COS	-22.90	35.04	30.62	4.62	9.64	14.77	4 COS	3.23	-1.20	28.29	-1.21	21.92	-10.84
4 SIN	-6.49	7.17	31.81	15.07	21.30	-15.44	4 SIN	-2.21	1.47	-29.72	-13.98	-5.25	-1.90
5 COS	-6.03	4.63	-0.34	8.08	2.10	-1.07	5 COS	9.45	-11.16	-4.44	-33.31	0.26	5.32
5 SIN	-3.56	-24.80	-4.42	-16.05	0.14	3.03	5 SIN	6.05	-5.21	-0.50	5.44	1.33	7.94
6 COS	-1.51	9.44	0.44	29.38	3.85	1.22	6 COS	5.64	11.87	-0.28	-13.67	1.07	-3.19
6 SIN	-8.21	-13.47	-1.21	18.06	5.77	1.28	6 SIN	-2.57	2.17	-1.94	26.69	2.70	-0.57
7 COS	-21.35	-13.77	-0.74	19.24	-3.56	2.78	7 COS	21.68	4.60	3.14	-36.80	6.83	-1.57
7 SIN	0.82	6.59	2.24	-30.87	1.08	-0.05	7 SIN	8.19	-10.43	-3.89	25.50	7.89	-2.04
8 COS	-23.05	13.38	8.43	18.37	6.87	-5.65	8 COS	-2.15	-2.04	-7.16	0.48	7.45	4.19
8 SIN	-7.62	-10.01	1.16	2.34	7.97	-8.63	8 SIN	1.72	5.84	-16.04	-2.20	12.95	13.32
9 COS	10.06	15.91	1.57	-6.34	-9.44	1.15	9 COS	-2.40	13.29	1.10	12.57	2.87	-4.55
9 SIN	-8.10	13.79	-0.82	40.66	13.94	3.87	9 SIN	8.38	-6.48	5.32	-45.00	-1.64	-4.05
10 COS	-10.24	-0.57	-6.92	18.01	4.89	4.75	10 COS	10.34	-0.43	-7.23	-27.14	-19.87	-0.49
10 SIN	6.35	0.57	0.43	-32.28	-7.01	-3.32	10 SIN	0.45	7.69	1.73	17.93	-0.39	0.69
11 COS	-5.16	11.25	0.85	1.39	-5.24	0.42	11 COS	2.28	-13.16	-1.62	-2.45	-4.43	-1.32
11 SIN	3.14	17.17	-1.50	-9.68	-4.35	5.46	11 SIN	4.14	13.75	-5.02	3.55	-2.02	3.44
12 COS	39.59	16.46	-6.28	-12.63	23.85	5.70	12 COS	-28.15	-29.57	1.01	-10.52	52.74	9.57
12 SIN	-10.72	-0.05	-2.04	4.51	-42.68	3.14	12 SIN	-7.73	10.37	-3.96	-0.47	5.78	-4.98

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OF POOR PAGE IS

## FFT COEFFICIENTS FOR DATA POINT

444

## FFT COEFFICIENTS FOR DATA POINT

445

HARMONIC	ACC1	PL1.1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	PL1.1	ACC2	ACC4	ACC5	ACC6
1COS	-7.68	-79.41	-15.10	-17.02	-95.01	8.65	1COS	-8.86	-70.11	-15.22	-15.81	-85.95	7.01
1 SIN	0.00	0.00	0.00	0.00	0.00	0.00	1 SIN	0.00	0.00	0.00	0.00	0.00	0.00
2 COS	0.09	20.81	1.94	3.77	-0.91	-0.65	2 COS	1.05	-15.79	0.90	2.15	1.16	0.47
2 SIN	-3.92	9.06	-0.23	2.53	0.66	-0.65	2 SIN	-4.99	-8.07	-0.61	2.33	0.86	0.04
3 COS	-5.17	0.14	4.11	8.67	1.07	1.02	3 COS	-4.06	-6.24	2.89	2.91	2.36	2.34
3 SIN	-2.87	15.70	-0.98	-3.37	1.74	0.73	3 SIN	-2.83	6.67	-3.49	1.10	1.08	-0.07
4 COS	10.54	-0.38	29.72	-8.71	18.55	-11.30	4 COS	0.66	-22.67	17.31	-15.58	14.12	-12.81
4 SIN	20.85	5.18	-22.00	-24.51	1.66	-7.18	4 SIN	-7.77	-11.82	-32.56	1.47	-13.48	-7.13
5 COS	8.89	-15.74	-5.35	-20.72	0.55	3.87	5 COS	7.45	11.69	-2.62	7.89	0.93	5.02
5 SIN	-0.66	-4.65	-2.50	27.32	3.14	7.71	5 SIN	-4.04	12.57	-0.55	14.74	3.08	6.47
6 COS	-3.88	12.30	-1.02	5.44	3.23	-2.14	6 COS	13.43	-6.93	0.44	-25.10	3.95	-3.38
6 SIN	2.12	10.64	-2.46	-20.49	-5.84	-0.96	6 SIN	-2.03	-8.13	-3.31	36.37	4.58	0.67
7 COS	7.14	-4.14	0.93	-2.66	-0.88	1.33	7 COS	9.87	14.86	-1.98	20.85	12.58	-3.55
7 SIN	-6.45	-0.85	0.50	15.24	2.10	-3.24	7 SIN	-21.06	-22.58	-3.40	37.96	-5.56	-0.64
8 COS	16.26	5.07	-7.42	-26.32	0.81	-1.67	8 COS	0.44	16.06	-7.82	-10.12	10.54	13.12
8 SIN	19.91	-48.98	-8.63	-11.50	5.61	14.16	8 SIN	4.10	-0.15	-4.95	-0.05	12.50	5.81
9 COS	-3.64	-5.47	3.42	19.64	-11.90	-10.47	9 COS	6.53	-3.09	0.63	-29.00	-4.04	-2.90
9 SIN	-3.28	25.60	4.22	3.19	-21.67	-4.05	9 SIN	9.35	-10.76	2.65	-26.32	-17.24	0.17
10 COS	8.99	-1.39	-4.70	-41.97	-7.69	0.32	10 COS	4.50	8.08	-8.62	10.76	-9.61	7.25
10 SIN	-0.33	13.20	-0.41	6.32	18.50	4.34	10 SIN	1.37	2.00	0.23	1.16	10.52	7.11
11 COS	-13.00	2.12	3.64	-9.97	-0.57	-7.63	11 COS	-1.36	-26.70	-3.88	2.86	-5.32	2.46
11 SIN	11.58	3.00	1.51	-15.52	-1.85	-3.77	11 SIN	-2.39	20.84	-0.87	-3.51	12.31	3.14
12 COS	-2.22	13.20	-1.72	-16.77	2.54	6.95	12 COS	-4.13	-4.12	-1.82	8.78	37.74	-5.78
12 SIN	2.57	5.16	-1.35	-0.46	-4.59	-2.97	12 SIN	25.82	6.00	-3.11	2.41	-25.55	-7.52

## FFT COEFFICIENTS FOR DATA POINT 446

## FFT COEFFICIENTS FOR DATA POINT 447

HARMONIC	ACC1	P.L1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	P.L1	ACC3	ACC4	ACC5	ACC6
0C	-5.47 0.00	-101.32 0.00	-17.23 6.00	-17.12 0.60	-98.52 0.00	5.90 0.00	TC	-10.17 0.00	-94.52 0.00	-16.36 0.00	-15.95 0.00	-96.10 0.00	6.84 0.00
1 COS 1 SIN	0.56 0.62	7.51 4.95	0.19 1.02	13.22 19.70	1.23 -1.02	-0.37 0.69	1 COS 1 SIN	-0.58 -0.99	-9.33 7.81	-1.01 0.30	14.69 18.93	1.41 -1.00	-0.42 0.29
2 COS 2 SIN	0.59 -1.03	-5.82 4.48	-0.90 -0.79	-0.73 0.75	3.13 0.48	1.52 -0.08	2 COS 2 SIN	1.64 -3.23	14.43 -24.50	-0.73 -0.28	0.55 4.66	1.21 -1.08	0.73 -0.61
3 COS 3 SIN	-2.12 -3.07	10.58 34.35	-2.54 2.64	5.21 -2.25	-1.20 -0.94	3.42 0.72	3 COS 3 SIN	-6.08 -1.36	11.80 -17.37	-1.59 -2.20	5.20 -2.87	6.67 -2.87	1.77 -0.11
4 COS 4 SIN	-3.59 13.00	-23.69 16.62	17.28 -37.77	6.54 -11.74	19.40 -9.90	-12.50 -0.10	4 COS 4 SIN	-4.68 16.04	30.11 4.71	-6.69 -24.59	11.75 -28.28	3.33 -26.25	-5.69 -1.82
5 COS 5 SIN	7.14 -1.70	5.32 13.52	-2.66 -1.69	-15.51 9.22	0.69 3.52	2.59 5.43	5 COS 5 SIN	3.18 -3.49	-12.93 -16.01	6.01 0.77	2.68 11.17	7.95 6.52	-0.36 -1.37
6 COS 6 SIN	0.09 3.11	7.96 -0.40	2.68 0.80	0.55 -2.06	4.50 0.76	-0.33 -2.10	6 COS 6 SIN	-8.71 -2.44	0.09 -18.61	0.10 -1.16	18.46 -12.16	3.63 4.96	1.57 -1.39
7 COS 7 SIN	14.01 -9.97	-10.58 26.85	-0.94 -1.41	1.02 30.86	0.76 -0.20	-0.74 1.32	7 COS 7 SIN	-22.40 7.24	-19.28 17.52	0.18 2.50	7.42 -35.13	-0.44 3.67	3.47 -1.12
8 COS 8 SIN	14.29 11.81	7.16 2.42	-4.86 -3.11	-15.93 -0.95	2.20 -0.63	10.00 9.57	8 COS 8 SIN	14.91 7.54	5.39 12.73	8.44 -6.50	-21.78 7.47	-1.59 10.40	-8.82 0.25
9 COS 9 SIN	4.76 2.46	-9.15 9.57	1.10 1.29	-25.65 -0.73	-8.32 0.47	0.40 -2.97	9 COS 9 SIN	-0.54 -8.35	-19.34 0.22	-0.39 5.80	0.52 13.55	7.62 -19.74	-1.27 -8.83
10 COS 10 SIN	4.89 -8.84	-40.34 -25.28	-6.00 2.65	-23.47 28.82	-15.74 18.24	2.94 2.47	10 COS 10 SIN	-1.77 1.04	-2.18 -20.29	-6.39 1.21	10.09 -30.24	-1.56 5.31	3.84 -0.69
11 COS 11 SIN	-9.47 7.90	-7.70 -7.23	3.46 -0.45	-1.42 -1.57	4.50 -1.50	-2.41 0.13	11 COS 11 SIN	-9.39 4.90	8.26 5.76	0.05 -4.26	1.71 -2.73	-11.87 4.92	-0.99 1.60
12 COS 12 SIN	27.52 -4.83	2.91 23.95	-2.24 -1.03	-3.12 5.96	-9.54 -2.52	-1.50 2.20	12 COS 12 SIN	15.88 0.39	4.02 -6.20	0.99 -1.75	24.97 7.15	13.16 23.03	1.05 -1.37

D169

## FFT COEFFICIENTS FOR DATA POINT 448

## FFT COEFFICIENTS FOR DATA POINT 449

HARMONIC	ACC1	PLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	PLL1	ACC3	ACC4	ACC5	ACC6
DC	-7.69 0.00	-81.75 0.00	-17.03 0.00	-15.80 0.00	-97.76 0.00	5.80 0.00	DC	-6.46 0.00	-87.16 0.00	-17.33 0.00	-16.47 0.00	-96.14 0.00	6.68 0.00
1 COS	-0.16	10.35	0.70	11.57	0.62	-0.58	1 COS	-0.50	-3.34	-0.93	13.40	1.16	-0.36
1 SIN	-0.81	-9.98	0.22	21.71	-0.63	0.50	1 SIN	0.14	-7.98	-0.10	20.43	-1.13	0.08
2 COS	3.71	25.07	0.43	-1.01	-0.47	-0.22	2 COS	0.04	6.79	-0.63	1.92	1.59	1.20
2 SIN	-3.04	22.18	-1.74	7.00	0.13	-0.78	2 SIN	-2.48	4.36	-0.62	2.65	0.98	-0.50
3 COS	-1.90	-0.72	-0.21	3.39	0.04	0.41	3 COS	-4.09	-1.51	-2.96	3.24	0.13	2.54
3 SIN	-2.78	-8.52	-5.15	5.27	-0.91	-0.66	3 SIN	0.42	-12.67	-0.34	-6.71	-0.13	-0.21
4 COS	10.56	10.20	35.59	-2.89	24.95	3.54	4 COS	12.72	-0.14	-7.18	-4.06	10.17	-9.03
4 SIN	9.75	-9.91	0.08	-12.68	5.20	-12.66	4 SIN	13.15	-15.68	-39.44	-18.82	-25.58	2.62
5 COS	-2.23	22.52	-2.22	-4.67	-2.77	-5.44	5 COS	7.82	-6.23	-0.30	-11.87	4.13	-0.59
5 SIN	1.27	1.76	-1.74	-8.57	-4.06	6.67	5 SIN	-4.74	-22.36	-2.91	29.87	5.11	3.78
6 COS	-1.52	6.88	1.10	-48.34	-4.27	-3.45	6 COS	0.43	23.89	2.78	17.47	0.91	0.36
6 SIN	19.61	6.12	0.33	-34.96	-3.37	-0.94	6 SIN	-6.73	21.24	1.21	15.02	0.65	-3.42
7 COS	3.61	2.96	1.58	-5.15	2.22	0.77	7 COS	-6.74	2.76	-2.44	26.80	-1.06	3.08
7 SIN	-2.58	20.42	-0.89	4.33	8.08	2.36	7 SIN	-8.49	-0.17	-0.39	7.13	0.28	2.87
8 COS	5.63	-8.44	3.27	-16.40	0.80	-16.69	8 COS	-1.68	6.00	-6.20	8.05	7.39	12.75
8 SIN	23.89	-1.57	-9.63	-10.95	-2.48	12.04	8 SIN	-14.35	3.50	9.92	8.25	5.14	-7.39
9 COS	-4.50	2.15	-0.23	25.21	-3.25	-2.26	9 COS	4.57	-8.64	2.80	-18.64	-11.28	0.82
9 SIN	7.59	30.96	2.38	-9.05	-12.97	-4.19	9 SIN	0.89	16.45	1.45	8.83	1.52	-0.03
10 COS	3.24	18.42	-11.68	-20.91	2.58	7.55	10 COS	-5.43	21.37	-7.45	33.76	4.37	6.68
10 SIN	-1.08	13.96	1.24	-13.52	-6.12	-0.67	10 SIN	-3.69	-10.95	0.59	20.06	15.55	1.33
11 COS	-19.08	-12.52	1.74	37.83	3.48	-2.93	11 COS	2.48	17.77	0.14	-7.23	-1.98	3.49
11 SIN	-16.32	-4.20	4.98	-7.97	11.44	-9.56	11 SIN	6.83	-1.45	-3.35	-5.07	-5.23	3.85
12 COS	3.45	-14.43	3.97	-26.09	-11.92	-6.66	12 COS	-6.24	-2.46	1.49	-16.27	-25.00	-9.60
12 SIN	19.82	21.88	2.65	-1.22	7.13	-2.83	12 SIN	7.79	33.71	1.52	9.27	-12.92	1.00

D170

## FFT COEFFICIENTS FOR DATA POINT 450

HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	PLL1	ACC3	ACC4	ACC5	ACC6
0C	-10.14 0.00	-94.29 0.00	-17.11 0.00	-13.73 0.00	-97.32 0.00	7.05 0.00	DC	-9.08 0.00	-92.41 0.00	-16.63 0.00	-17.48 0.00	-97.48 0.00	6.57 0.00
1 COS 1 SIN	-0.79 -1.84	6.66 7.48	-0.60 -0.25	15.53 15.70	-0.30 -1.85	-1.01 0.35	1 COS 1 SIN	0.36 -1.38	-4.36 4.46	-0.80 0.74	12.41 19.57	-0.12 -1.38	0.29 0.19
2 COS 2 SIN	1.32 -9.62	6.93 -0.85	0.94 -0.84	10.32 13.16	-4.80 -1.06	-2.32 -1.44	2 COS 2 SIN	3.50 0.58	9.97 -27.90	-0.22 0.46	-6.96 3.63	0.97 -1.46	2.30 -0.01
3 COS 3 SIN	-4.67 0.08	-23.93 -6.58	-3.53 -3.12	2.97 1.81	-3.78 -0.61	0.36 0.71	3 COS 3 SIN	-4.26 -1.15	6.20 -4.64	-2.91 1.88	2.71 -0.30	-2.48 0.38	2.33 0.35
4 COS 4 SIN	11.85 -6.36	-11.96 -4.32	32.34 -6.87	-8.66 -16.27	15.97 -9.76	-4.94 -17.96	4 COS 4 SIN	17.92 1.10	30.36 -7.25	31.36 24.12	-0.37 -14.41	23.09 30.49	18.06 -5.70
5 COS 5 SIN	8.27 -2.53	18.12 -11.85	-2.61 -5.44	-23.85 12.54	-3.29 2.12	-3.14 8.87	5 COS 5 SIN	-5.53 4.31	-3.60 15.19	-2.57 -5.44	-6.19 -12.82	0.32 -2.01	-3.08 7.86
6 COS 6 SIN	-6.09 -2.17	27.17 -12.08	3.34 3.44	4.95 23.05	-4.60 1.97	4.04 -2.66	6 COS 6 SIN	6.29 18.26	-9.48 -8.45	-0.55 -0.52	-47.47 -26.25	3.50 -12.65	-3.84 -0.59
7 COS 7 SIN	12.15 22.17	-20.87 6.03	4.10 -1.28	-42.11 -2.24	3.57 5.10	2.02 -2.25	7 COS 7 SIN	-3.75 -14.81	21.05 -25.27	-3.19 0.03	24.07 16.92	-3.08 -7.89	-0.26 1.04
8 COS 8 SIN	18.02 -11.91	-24.12 -1.37	-7.65 -2.42	-1.32 29.02	7.03 9.57	15.44 4.86	8 COS 8 SIN	-11.16 34.73	-3.15 6.58	-0.50 -9.97	-9.87 -32.36	21.58 11.50	-5.99 5.25
9 COS 9 SIN	-5.56 -8.38	-12.00 -7.26	1.35 -2.31	26.84 19.83	-3.28 11.68	-0.54 5.45	9 COS 9 SIN	6.64 1.13	-26.88 8.83	-1.17 0.38	-17.06 16.84	-6.90 -6.44	2.19 1.23
10 COS 10 SIN	1.11 6.48	20.65 12.78	-6.28 -3.55	-45.42 -34.74	-17.03 3.00	0.17 0.44	10 COS 10 SIN	5.62 9.17	-27.54 12.61	-10.58 0.46	-41.73 -1.69	2.56 -18.68	1.68 -1.62
11 COS 11 SIN	-8.60 23.73	-2.72 -0.04	2.21 -3.29	-25.31 -29.07	0.32 -5.74	-2.48 5.00	11 COS 11 SIN	-1.41 -27.39	17.15 18.86	-4.75 0.54	35.22 18.65	-6.07 1.49	4.96 1.37
12 COS 12 SIN	30.88 -2.81	-13.01 -2.45	-4.95 2.53	0.75 -3.93	-27.61 -35.42	1.95 4.13	12 COS 12 SIN	-13.41 -38.39	-14.11 -6.18	9.79 1.84	-46.22 22.08	25.94 55.55	-4.06 -10.53

OF POOR QUALITY

D171

## FFT COEFFICIENTS FOR DATA POINT

452

## FFT COEFFICIENTS FOR DATA POINT

453

HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
1C 0.00	-7.96 0.00	-120.88 0.00	-15.66 0.00	-15.01 0.00	-96.67 0.00	5.98 0.00	NC	-9.52 0.00	-101.02 0.00	-15.45 0.00	-17.29 0.00	-96.23 0.00	5.77 0.00
1 COS 1 SIN	0.04 -0.67	-1.59 -5.01	0.07 0.03	12.19 18.81	0.88 -0.46	-0.94 0.57	1 COS 1 SIN	-0.59 -1.16	6.20 -4.08	0.02 0.30	9.62 19.32	2.02 -0.35	-1.05 0.32
2 COS 2 SIN	-0.86 -2.24	-15.62 7.60	0.87 0.24	3.62 0.57	3.18 2.79	1.16 1.26	2 COS 2 SIN	0.66 -2.01	-1.74 14.79	0.88 0.82	-1.37 2.46	3.06 -0.14	0.47 -0.25
3 COS 3 SIN	-1.63 -3.54	27.94 33.60	3.89 -1.11	1.89 5.68	1.54 1.31	1.50 1.42	3 COS 3 SIN	-2.63 -3.23	12.38 11.08	4.09 2.29	0.38 -1.73	3.19 -0.29	1.65 -1.86
4 COS 4 SIN	-0.24 -22.46	-16.69 -8.07	14.28 -8.94	-0.85 13.11	18.83 3.22	1.65 -0.25	4 COS 4 SIN	7.59 15.95	0.27 -1.16	0.95 -6.43	-5.68 -9.47	5.27 6.07	0.61 6.53
5 COS 5 SIN	-0.86 -2.06	8.94 4.03	-3.82 -6.08	1.23 -4.52	-3.13 1.11	-5.94 10.82	5 COS 5 SIN	-0.97 -3.64	-19.09 4.79	4.73 -3.71	0.08 -0.37	1.54 0.79	-7.99 -0.51
6 COS 6 SIN	19.17 9.43	3.03 14.88	-0.41 3.48	-65.21 31.65	-12.35 0.98	2.27 10.11	6 COS 6 SIN	-9.16 19.23	-10.63 17.30	-3.38 1.12	-28.11 -61.27	1.01 -7.85	-7.77 1.13
7 COS 7 SIN	-6.30 -26.91	2.80 -6.58	-0.39 -1.87	43.68 30.05	5.79 4.82	-0.84 1.11	7 COS 7 SIN	26.25 -4.09	1.96 -18.70	2.47 -3.05	-18.56 43.23	7.90 7.08	-2.42 -2.30
8 COS 8 SIN	21.71 -2.90	-9.61 -25.29	-12.96 -9.43	-16.30 9.83	7.97 -6.96	8.03 12.29	8 COS 8 SIN	-14.80 -2.00	-13.08 -32.82	-2.15 -12.83	-11.17 -8.27	10.50 3.69	-2.66 10.65
9 COS 9 SIN	3.00 2.64	-6.18 16.73	0.29 0.00	16.03 4.64	-5.14 3.74	1.45 3.74	9 COS 9 SIN	-7.30 1.66	4.94 18.46	-1.59 1.64	-29.26 -24.45	-1.05 -2.98	0.73 0.16
10 COS 10 SIN	4.17 5.40	5.24 -6.54	-11.81 3.29	-53.76 0.03	-6.67 -12.29	5.79 -6.24	10 COS 10 SIN	8.43 2.13	8.52 13.55	-11.62 1.88	-43.72 2.02	-1.14 -14.90	5.78 -4.14
11 COS 11 SIN	17.11 19.43	13.13 -0.01	5.31 -0.37	-26.78 2.92	10.83 -0.12	-8.98 -0.18	11 COS 11 SIN	1.59 -13.99	-12.13 12.19	0.59 3.61	10.88 6.14	0.73 8.15	2.39 -1.37
12 COS 12 SIN	-27.65 -5.11	-6.43 11.27	1.93 -2.07	3.17 32.25	14.91 0.17	-5.99 2.99	12 COS 12 SIN	19.75 -25.64	-20.51 -1.06	-2.28 2.49	-9.09 1.80	-1.02 -12.40	6.58 -6.27

D172

## FFT COEFFICIENTS FOR DATA POINT 454

## FFT COEFFICIENTS FOR DATA POINT 455

HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
DC	-7.61 0.00	-80.23 0.00	-16.22 0.00	-14.62 0.00	-97.73 0.00	5.13 0.00	DC	-9.22 0.00	-102.63 0.00	-16.30 0.00	-13.01 0.00	-97.92 0.00	5.34 0.00
1 COS 1 SIN	-0.46 0.12	20.72 -12.51	-0.25 -0.23	14.67 20.40	1.18 -1.96	-0.26 0.29	1 COS 1 SIN	0.39 -1.49	-2.80 6.03	-0.73 -0.06	10.02 18.81	0.41 -1.28	-0.99 0.48
2 COS 2 SIN	4.53 -3.56	17.76 -14.93	0.82 -0.93	0.75 10.30	-0.21 -1.82	0.96 -2.53	2 COS 2 SIN	-4.22 -5.07	16.80 -21.37	-0.17 -0.67	10.20 -0.75	0.05 3.15	-1.19 1.43
3 COS 3 SIN	-5.11 -3.31	-7.27 -17.87	1.13 -3.82	7.43 0.95	1.15 -1.02	1.38 0.48	3 COS 3 SIN	-1.65 2.12	-20.88 -0.50	-1.80 -3.42	-7.66 -1.90	-0.48 -1.54	2.22 0.27
4 COS 4 SIN	22.79 6.27	-15.14 4.98	-19.26 -28.99	-17.63 -15.24	-2.75 -31.36	-6.33 0.89	4 COS 4 SIN	8.70 -23.81	1.18 19.32	-23.32 19.06	-23.19 31.12	-27.49 15.87	3.29 8.61
5 COS 5 SIN	5.58 -2.74	-2.61 10.38	-0.76 -1.21	-7.57 15.15	1.72 2.73	2.95 4.76	5 COS 5 SIN	-1.92 -9.55	6.81 9.72	-4.05 -0.12	20.96 6.30	5.64 1.27	-0.70 -0.72
6 COS 6 SIN	5.87 -5.13	17.23 12.04	-1.48 3.90	-7.17 30.77	-11.59 0.99	1.97 2.30	6 COS 6 SIN	3.59 2.77	16.58 13.88	-2.73 0.02	-16.64 2.12	-9.44 -6.37	-1.51 2.16
7 COS 7 SIN	-25.08 5.69	-17.63 -4.61	-3.30 4.24	18.63 -32.88	-7.89 -4.30	1.09 2.73	7 COS 7 SIN	8.93 -9.43	16.21 1.11	-2.65 -0.95	0.25 15.07	-2.57 -5.05	-1.53 3.65
8 COS 8 SIN	-16.65 -28.69	8.59 -15.85	6.19 16.87	28.19 7.50	-4.83 4.84	7.08 -15.91	8 COS 8 SIN	18.05 15.56	11.58 10.55	-0.72 -2.15	-17.79 -4.46	-10.01 4.71	2.52 6.32
9 COS 9 SIN	1.28 1.52	3.26 14.01	-1.03 0.99	-11.15 -6.57	12.57 1.26	4.47 -1.70	9 COS 9 SIN	0.82 -1.79	-6.52 0.67	-1.57 2.90	-2.25 -5.75	-6.96 -17.43	3.20 -4.16
10 COS 10 SIN	0.66 -4.13	-6.42 -3.00	-6.89 -1.45	39.42 -25.42	-6.10 13.40	4.08 2.98	10 COS 10 SIN	6.61 3.21	-4.68 0.39	-7.61 -1.33	-21.06 -18.32	-0.63 7.31	4.27 1.31
11 COS 11 SIN	14.31 5.89	16.98 11.57	1.23 -1.97	-15.07 16.10	-8.05 1.72	-1.20 -1.52	11 COS 11 SIN	17.74 16.25	-8.42 -16.38	-0.59 -0.87	-30.88 -9.05	-2.24 -8.21	1.94 -0.08
12 COS 12 SIN	8.53 6.78	16.46 -13.98	4.16 1.96	-7.75 -3.91	-12.41 29.09	-5.26 -0.74	12 COS 12 SIN	-11.78 -23.27	-6.56 -13.19	0.31 3.76	-6.10 -7.17	-3.90 8.61	3.40 -4.95

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D173

## FFT COEFFICIENTS FOR DATA POINT

## FFT COEFFICIENTS FOR DATA POINT

456

457

HARMONIC	ACC1	PLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	PLL1	ACC3	ACC4	ACC5	ACC6
0 NC	-7.15	-107.16	-15.66	-15.55	-99.46	5.91	0 NC	-7.53	-97.76	-15.37	-14.91	-59.19	4.99
0 SIN	0.00	0.00	0.00	0.00	0.00	0.00	0 NC	0.00	0.00	0.00	0.00	0.00	0.00
1 COS	-0.38	7.64	-0.03	11.72	0.14	-0.58	1 COS	-1.87	15.09	1.02	12.15	0.72	0.24
1 SIN	-0.87	-9.98	-0.07	18.30	-0.66	0.39	1 SIN	-1.48	-1.94	0.58	19.30	-1.44	0.26
2 COS	-0.09	10.14	0.72	-1.48	2.77	2.11	2 COS	-2.18	-9.85	1.67	8.89	-0.81	-0.90
2 SIN	-1.39	-10.43	-0.64	1.44	0.04	0.32	2 SIN	-4.66	0.98	-1.34	2.09	3.56	0.76
3 COS	-2.15	3.31	1.30	2.38	-0.32	0.92	3 COS	-1.60	0.84	5.16	-0.20	0.89	1.72
3 SIN	-3.69	3.14	-3.81	7.50	-1.24	-0.78	3 SIN	-1.96	0.63	-0.07	1.00	0.94	-0.30
4 COS	-0.96	2.56	10.07	13.43	11.90	2.03	4 COS	21.72	17.64	-0.53	-20.20	-7.73	10.26
4 SIN	-17.62	-18.12	-1.69	10.06	1.61	-2.19	4 SIN	-7.49	-24.37	33.18	16.90	25.62	1.88
5 COS	2.77	8.75	-1.48	-6.01	-3.66	-2.33	5 COS	-5.43	-1.42	0.36	19.89	4.27	-3.03
5 SIN	-1.24	-5.43	-0.06	0.12	7.35	9.82	5 SIN	-6.41	-1.56	-4.60	1.22	0.42	3.09
6 COS	23.98	-7.02	1.88	-27.80	-9.74	3.31	6 COS	-5.13	10.79	-3.84	-0.65	-4.55	-2.18
6 SIN	-8.32	-17.54	1.14	65.36	2.73	2.93	6 SIN	2.75	0.68	0.62	-27.31	-16.21	4.57
7 COS	-8.18	-26.21	-1.05	6.91	-3.09	-0.89	7 COS	-1.86	16.84	0.25	13.03	-2.39	0.34
7 SIN	7.50	7.41	-0.12	-18.84	-8.17	2.24	7 SIN	-8.09	19.00	-0.43	4.74	0.38	1.11
8 COS	10.36	5.20	-11.80	-0.50	-6.53	13.64	8 COS	-13.42	16.65	13.74	4.85	-10.27	1.28
8 SIN	-14.40	8.38	8.23	18.51	-10.25	0.97	8 SIN	18.19	-13.29	9.08	-18.33	0.71	-16.95
9 COS	1.77	11.10	3.59	5.26	-7.28	3.87	9 COS	-4.81	7.96	-0.27	4.04	-0.22	2.30
9 SIN	-4.32	4.27	-6.25	7.55	33.12	8.37	9 SIN	0.95	-9.12	0.30	-6.69	-1.66	0.09
10 COS	-2.47	12.54	-7.63	-32.80	2.36	0.44	10 COS	8.84	5.43	-5.52	-19.61	5.19	-1.23
10 SIN	-2.88	-40.79	0.43	-4.38	0.96	-2.08	10 SIN	4.17	16.19	-0.27	-9.44	1.44	-2.77
11 COS	23.50	-0.65	-3.84	-15.05	-3.63	3.01	11 COS	-8.73	1.94	3.72	-13.21	-2.34	-2.69
11 SIN	-1.73	10.79	1.49	26.80	-5.60	-0.21	11 SIN	11.99	8.85	3.52	-19.65	4.38	0.15
12 COS	10.17	9.98	0.02	17.74	-5.16	-0.58	12 COS	26.15	-11.84	2.12	17.86	39.16	-14.88
12 SIN	9.39	8.37	-0.72	3.02	-5.85	-0.32	12 SIN	2.54	2.32	-6.64	-14.94	-14.47	1.06

D174

## FFT COEFFICIENTS FOR DATA POINT

458

## FFT COEFFICIENTS FOR DATA POINT

459

HARMONIC	ACC1	PLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	PLL1	ACC3	ACC4	ACC5	ACC6
DC	-7.34 0.00	-88.09 0.00	-15.02 0.00	-16.55 0.00	-98.74 0.00	5.55 0.00	DC	-8.05 0.00	-59.11 0.00	-15.61 0.00	-13.34 0.00	-98.27 0.00	4.63 0.00
1 COS 1 SIN	-0.15 -0.24	-16.71 0.78	0.65 1.02	12.94 19.63	1.86 -0.78	0.31 0.43	1 COS 1 SIN	-1.01 -0.43	2.13 8.32	0.29 0.58	16.75 18.87	1.28 -2.70	0.14 0.13
2 COS 2 SIN	3.06 -4.09	-0.21 -6.48	0.47 0.44	0.86 6.60	0.87 1.12	0.66 -0.19	2 COS 2 SIN	-1.22 -4.75	7.73 7.79	1.53 -0.23	6.55 2.03	-1.14 0.41	-0.78 0.06
3 COS 3 SIN	-3.49 -4.14	-3.74 6.84	2.83 1.77	4.79 -4.44	2.94 1.53	2.44 -1.14	3 COS 3 SIN	-2.40 -2.58	16.01 12.17	4.37 -0.69	4.77 4.93	-2.55 -0.15	2.18 -1.22
4 COS 4 SIN	-10.20 14.47	-25.61 12.58	3.68 -35.66	12.83 -20.02	6.37 -7.23	-14.74 -0.36	4 COS 4 SIN	-12.82 -2.08	10.23 -2.94	17.94 40.77	9.58 9.83	-4.70 25.30	12.19 -6.53
5 COS 5 SIN	3.46 -7.44	-8.68 -9.51	2.37 -0.71	-3.08 25.39	1.49 3.8	1.87 2.26	5 COS 5 SIN	-3.16 -1.76	-20.51 -12.30	-0.28 -4.21	1.65 -4.79	4.95 -0.35	-0.35 5.32
6 COS 6 SIN	-10.39 -11.49	-6.40 -25.09	-1.29 -2.83	52.46 -9.15	1.36 -0.05	-1.70 -3.01	6 COS 6 SIN	-2.93 -16.02	-16.40 8.85	1.71 -2.58	46.34 21.05	2.19 5.95	-1.87 -2.84
7 COS 7 SIN	12.04 -1.72	-29.70 -10.43	-0.14 2.00	-15.77 14.13	1.13 0.56	1.30 -0.89	7 COS 7 SIN	-4.73 -1.83	-8.81 10.16	-0.33 1.84	8.65 -3.13	-4.13 5.07	2.79 0.07
8 COS 8 SIN	8.22 0.28	7.72 18.85	-7.32 3.11	-5.25 2.94	16.86 -1.61	6.24 -5.93	8 COS 8 SIN	-12.22 -6.77	-4.80 -0.35	1.58 13.37	11.55 -5.43	4.80 -15.30	2.91 -21.26
9 COS 9 SIN	11.98 4.43	17.02 8.27	2.76 4.09	-43.16 -7.57	-11.27 -16.98	-2.05 -2.54	9 COS 9 SIN	4.57 -0.35	20.64 -5.00	-2.95 -1.52	-26.41 28.06	6.74 2.05	3.36 0.07
10 COS 10 SIN	3.09 -9.40	-7.45 24.52	-7.49 -1.72	16.53 25.17	-10.68 -2.90	4.80 4.97	10 COS 10 SIN	4.07 -0.56	-12.53 -6.50	-8.31 -1.41	-4.76 -0.09	3.71 -23.66	3.47 -1.48
11 COS 11 SIN	-1.90 6.41	-0.83 14.65	-0.74 1.55	1.44 3.97	-4.15 -7.63	-0.93 -2.60	11 COS 11 SIN	-3.26 4.28	19.52 0.43	0.64 -0.62	-4.71 -6.46	-0.51 -4.17	-3.40 4.25
12 COS 12 SIN	-9.10 -29.29	-2.63 28.57	-2.72 2.46	-1.92 13.86	-14.65 -10.65	8.44 -1.57	12 COS 12 SIN	13.56 -10.16	0.66 14.03	-1.03 -1.84	-8.68 -10.53	15.47 -18.33	-4.95 -7.42

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D175

## FFT COEFFICIENTS FOR DATA POINT 460

## FFT COEFFICIENTS FOR DATA POINT 461

HARMONIC	ACC1	FLL1	ACC3	ACCA	ACC5	ACCe	HARMONIC	ACC1	FLL1	ACC3	ACCA	ACC5	ACCe
0C	-9.57 0.00	-103.20 0.00	-16.66 0.00	-16.22 0.00	-97.30 0.00	5.60 0.00	DC	-9.26 0.00	-99.34 0.00	-15.23 0.00	-14.22 0.00	-96.74 0.00	4.82 0.00
1 COS	-1.22 1 SIN	-7.54 -8.26	-0.88 0.42	14.01 17.95	2.06 -2.72	0.09 0.09	1 COS	-0.96 1 SIN	-19.81 -11.14	0.36 -0.27	13.99 20.43	1.95 -1.18	-0.59 0.04
2 COS	0.00 2 SIN	5.98 -5.73	0.21 1.34	6.45 -0.05	-1.75 4.11	-0.93 -0.25	2 COS	3.01 2 SIN	-6.71 6.09	1.69 -0.14	4.48 11.56	0.10 -1.07	-0.71 -1.59
3 COS	-4.26 3 SIN	3.81 -3.05	-0.02 11.00	7.06 3.11	0.52 1.46	-0.14	3 COS	-4.29 3 SIN	-1.72 -17.30	4.63 0.89	7.61 4.95	0.40 1.03	1.14 -0.89
4 COS	18.12 4 SIN	-5.55 20.46	-12.75 39.01	-27.73 0.31	-15.19 18.31	14.54 2.72	4 COS	6.34 4 SIN	-10.50 -10.99	32.51 -12.08	-0.66 -9.61	27.36 -15.85	-2.55 -20.77
5 COS	0.70 5 SIN	1.83 -6.20	0.85 29.50	5.29 -5.94	5.46 12.52	-2.55 -0.27	5 COS	-1.01 5 SIN	48.46 -5.05	-3.76 -4.85	-17.70 -13.96	1.60 1.85	-1.86 10.09
6 COS	5.59 6 SIN	11.19 -8.83	-0.92 -3.13	5.05 -2.41	-2.86 24.21	-2.04 0.57	6 COS	15.96 6 SIN	-6.43 5.38	2.28 2.30	-52.75 26.34	-6.61 -3.92	1.04 -3.65
7 COS	1.16 7 SIN	-6.06 -12.63	-0.53 -0.94	12.74 0.42	-5.67 18.28	0.44 -3.57	7 COS	1.76 7 SIN	4.61 20.95	1.76 -4.57	-29.71 -16.35	6.14 1.53	-0.85 -2.15
8 COS	6.09 8 SIN	-18.66 12.40	-5.57 0.32	-7.05 4.88	15.06 11.75	10.76 -14.02	8 COS	20.10 8 SIN	14.79 -19.44	-4.21 -7.35	-18.46 20.77	-7.10 2.94	1.42 15.81
9 COS	6.96 9 SIN	9.68 -11.33	-13.75	-2.73 6.49	-21.83 27.54	3.88 -9.10	9 COS	-0.40 9 SIN	2.98 31.87	1.17 0.26	9.87 -11.36	-3.65 11.95	0.36 2.66
10 COS	4.40 10 SIN	8.34 -5.26	-5.95 3.32	27.08 1.07	-10.92 10.90	-0.01 1.10	10 COS	2.18 10 SIN	26.61 4.58	-6.80 4.42	-30.29 -11.38	-7.20 -5.25	-2.15 -6.03
11 COS	-9.22 11 SIN	-27.81 5.68	5.10 -9.21	1.02 -23.91	-7.28 2.67	-0.76 1.40	11 COS	9.40 11 SIN	-9.32 -4.67	-1.79 7.75	2.10 0.66	6.88 9.13	0.87 -2.28
12 COS	-4.42 12 SIN	7.68 -3.40	2.97 -3.89	21.60 10.70	27.67 14.03	-2.02 -5.79	12 COS	13.23 12 SIN	-8.62 -28.81	3.91 -1.12	-3.36 2.81	-10.92 -22.11	-5.11 35.43

D176

## FFT COEFFICIENTS FOR DATA POINT 462

## FFT COEFFICIENTS FOR DATA POINT 463

HARMONIC	ACC1	PLI1	ACC3	AI:CA	ACC5	ACC6	HARMONIC	ACC1	PLI1	ACC3	ACC4	ACC5	ACC6
0C	-8.82 0.00	-79.40 0.00	-14.77 0.00	-13.08 0.00	-98.45 0.00	4.93 0.00	DC	-7.37 0.00	-104.53 0.00	-15.73 0.00	-15.51 0.00	-97.30 0.00	5.63 0.00
1 COS	-1.81 1 SIN	-17.88 -5.11	1.28 1.23	15.76 19.54	-0.59 -0.63	-0.33 0.54	1 COS 1 SIN	-0.05 -1.41	30.45 2.93	0.14 1.08	13.75 18.72	0.69 -0.28	0.02 0.91
2 COS	-2.30 2 SIN	-7.05 -7.78	2.23 4.22	9.41 5.87	-0.80 1.45	-0.50 -0.47	2 COS 2 SIN	0.02 -3.90	-3.05 -29.58	-1.45 -0.20	6.53 3.21	3.95 1.45	1.98 0.50
3 COS	-2.65 3 SIN	-3.21 -6.44	6.36 -8.35	6.63 0.80	0.24 1.75	2.49 -0.92	3 COS 3 SIN	-4.49 0.43	10.74 3.57	-2.58 1.29	7.36 -3.89	-0.20 1.06	2.75 -0.12
4 COS	14.56 4 SIN	-8.34 -1.70	23.48 -13.44	-9.50 -15.85	14.98 -7.17	-4.07 6.30	4 COS 4 SIN	-5.18 1.74	-14.63 -7.05	0.05 -25.61	-5.14 -2.11	2.11 -9.00	-8.20 6.57
5 COS	-0.24 5 SIN	22.81 -5.85	1.89 29.53	4.07 -4.02	0.03 6.45	-2.83 4.26	5 COS 5 SIN	0.10 -4.98	-4.32 -12.15	2.54 -1.11	5.12 13.37	5.11 5.36	-1.61 2.84
6 COS	2.33 6 SIN	-4.55 33.59	-1.11 2.92	-41.26 -25.55	-6.17 -7.33	-2.18 5.80	6 COS 6 SIN	-7.01 -7.65	-7.43 -1.14	-0.02 -2.59	36.97 -17.72	0.52 0.00	-2.54 -0.45
7 COS	12.60 7 SIN	-9.13 -3.85	0.60 -1.86	-19.33 22.07	2.76 1.05	-1.60 -1.38	7 COS 7 SIN	-0.35 4.69	-3.96 16.10	0.06 3.56	-11.71 -3.29	-10.71 0.50	0.57 0.26
8 COS	4.46 8 SIN	0.74 2.34	5.13 16.51	-10.83 -0.15	-17.43 9.36	-4.58 12.95	8 COS 8 SIN	12.64 -2.79	-14.53 -17.11	5.98 -0.08	-6.31 3.09	-7.24 -6.35	-5.31 3.79
9 COS	-6.88 9 SIN	0.16 5.60	2.77 -24.48	20.07 0.51	-15.56 -18.99	-7.53 3.17	9 COS 9 SIN	-1.42 -2.38	9.26 13.14	2.02 0.07	-0.26 12.92	-4.86 -5.16	-1.91 0.30
10 COS	7.20 10 SIN	17.31 -2.40	-8.13 4.85	-42.55 -6.37	17.49 12.67	7.42 3.42	10 COS 10 SIN	-1.59 -7.20	26.36 13.71	-8.02 0.49	-2.51 0.44	-3.09 0.73	4.84 0.64
11 COS	-1.67 11 SIN	9.70 1.83	3.96 -0.13	9.08 4.84	11.55 -3.30	-5.07 -2.92	11 COS 11 SIN	-3.74 -18.12	-8.01 -1.73	3.90 1.22	12.43 18.48	-4.34 -6.65	-3.82 -3.26
12 COS	20.26 12 SIN	7.81 -20.72	5.55 10.48	-6.88 1.45	-1.55 44.79	-5.79 -2.54	12 COS 12 SIN	-17.81 2.28	-11.61 -0.99	4.72 -5.01	4.75 7.45	41.03 12.50	-6.34 3.57

D177

FFT COEFFICIENTS FOR DATA POINT 464						FFT COEFFICIENTS FOR DATA POINT 445						
HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
0C	-7.45 0.00	-44.89 -6.89	-16.55 0.00	-16.70 0.60	-100.17 0.00	4.55 0.00	0C	-9.78 0.00	-86.89 0.00	-16.22 0.00	-97.98 0.00	4.09 0.00
1 COS 1 SIN	0.06 -0.79	10.15 -6.89	-0.43 -0.58	11.26 15.36	-0.07 -1.91	-1.44 0.30	1 COS 1 SIN	-1.07 -0.30	-13.86 -1.83	0.61 -0.86	14.55 18.51	2.25 0.03
2 COS 2 SIN	1.71 -4.01	32.17 -1.83	0.00 -0.59	2.74 6.13	-1.99 -1.26	-1.47 -0.48	2 COS 2 SIN	0.98 -3.83	-31.54 4.80	0.65 -0.29	1.46 3.92	-0.87 -0.22
3 COS 3 SIN	-4.10 -2.89	-14.18 10.05	-0.97 -4.41	-0.30 1.31	-0.89 -2.48	0.60 0.00	3 COS 3 SIN	-7.96 -1.27	5.53 -3.96	3.09 -3.25	2.41 -5.65	0.45 -0.88
4 COS 4 SIN	4.58 15.80	9.12 -6.29	-25.93 3.37	-18.12 -12.01	-23.53 -3.05	-1.50 7.25	4 COS 4 SIN	-1.69 18.26	1.30 17.99	-9.44 -14.07	-6.58 -29.07	-6.90 -11.26
5 COS 5 SIN	8.61 -6.65	-19.52 2.32	4.27 -1.50	-12.19 20.43	2.77 2.74	-3.73 -0.25	5 COS 5 SIN	-0.89 -5.50	-13.26 16.13	6.40 -1.42	3.55 5.70	6.69 4.24
6 COS 6 SIN	1.03 2.46	-1.19 -6.67	1.24 0.30	-0.70 -7.58	4.70 -1.20	-1.45 -3.18	6 COS 6 SIN	-12.68 9.93	-8.19 6.46	-1.08 -2.52	8.47 -46.42	11.55 -4.90
7 COS 7 SIN	16.55 -1.14	-12.42 4.73	-0.11 -1.83	-17.52 22.87	3.73 -3.00	-0.92 0.00	7 COS 7 SIN	11.71 -11.36	-1.18 5.43	2.60 -0.05	0.04 32.06	3.23 7.35
8 COS 8 SIN	-23.52 2.12	10.97 28.20	-5.41 -4.05	7.76 -7.42	12.96 22.64	8.63 5.92	8 COS 8 SIN	-18.99 -15.96	-15.53 -1.91	-1.24 1.67	21.22 -6.79	1.18 4.12
9 COS 9 SIN	2.80 3.55	16.88 -37.66	1.24 0.92	-17.18 -24.00	-8.47 -3.97	-1.44 1.58	9 COS 9 SIN	-8.65 -3.26	5.49 -0.62	5.05 -1.43	25.03 10.62	-10.83 17.62
10 COS 10 SIN	-0.28 -0.22	24.83 -8.48	-5.91 2.92	-5.46 9.73	-11.20 6.93	2.07 -3.92	10 COS 10 SIN	3.70 -0.09	7.00 9.96	-5.84 -1.87	-14.43 -26.15	5.30 11.65
11 COS 11 SIN	17.48 -3.06	1.31 -6.65	2.82 -1.49	-4.12 20.11	7.60 -5.49	0.53 -1.84	11 COS 11 SIN	12.19 1.10	-11.65 10.22	3.44 -5.44	-7.35 10.00	2.05 -5.94
12 COS 12 SIN	-11.61 -10.92	-12.04 10.06	7.27 6.13	-18.94 -18.60	-20.96 62.76	0.05 -3.13	12 COS 12 SIN	-2.72 9.95	29.44 0.90	-4.02 1.61	1.00 -19.62	-17.83 -7.42

D178

## FFT COEFFICIENTS FOR DATA POINT 466

HARMONIC	ACC1	PLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	PLL1	ACC3	ACC4	ACC5	ACC6
DC	-6.32	-105.97	-16.07	-16.53	-97.71	4.66	DC	-8.47	-102.62	-16.09	-15.29	-97.41	4.62
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 COS	0.63	-3.72	0.29	11.45	1.33	0.36	1 COS	-0.06	-22.98	-0.74	13.20	1.04	-0.51
1 SIN	0.17	-3.64	0.49	19.19	-1.39	0.58	1 SIN	-1.15	13.01	0.21	17.20	0.05	0.59
2 COS	0.85	15.78	2.05	2.03	0.52	0.75	2 COS	-0.45	11.55	-0.96	-0.66	2.95	1.27
2 SIN	-3.66	-15.92	-0.24	2.73	0.90	0.01	2 SIN	-1.06	-1.41	0.63	1.23	0.57	0.38
3 COS	-2.91	-6.17	5.03	3.52	0.45	2.13	3 COS	-2.18	9.39	-1.54	1.76	0.25	2.89
3 SIN	-3.82	-10.41	1.58	-1.54	0.12	-0.68	3 SIN	-1.93	-11.94	0.94	1.93	-2.16	-1.00
4 COS	-4.19	-0.20	33.09	17.31	23.80	-7.92	4 COS	-0.82	-5.14	1.18	-6.70	2.55	2.29
4 SIN	21.52	-3.58	-20.39	-13.12	-2.95	-9.48	4 SIN	7.62	0.06	5.52	-8.87	9.72	2.68
5 COS	4.31	36.58	-1.75	-29.13	3.71	2.43	5 COS	0.24	1.15	4.93	7.29	5.16	-4.77
5 SIN	6.56	3.03	-1.89	-4.90	2.72	6.47	5 SIN	-4.34	-2.54	-2.56	-2.11	1.54	0.30
6 COS	4.04	18.75	-0.14	10.47	2.81	0.85	6 COS	0.68	-8.81	-0.33	-24.30	5.92	-8.01
6 SIN	-3.77	7.76	-3.14	6.69	-1.33	0.42	6 SIN	10.44	-3.79	-2.62	-21.33	-4.93	-2.22
7 COS	6.35	5.37	0.62	-16.13	-2.99	0.65	7 COS	13.12	13.66	-1.29	15.10	3.64	-0.87
7 SIN	6.42	23.05	0.16	3.96	2.31	-0.41	7 SIN	-18.45	7.97	-2.86	37.50	-1.33	0.41
8 COS	15.33	29.02	1.09	-14.92	-8.46	-4.03	8 COS	-1.23	-3.33	0.16	-6.39	10.53	-0.66
8 SIN	3.02	-8.31	-6.67	4.83	1.17	8.69	8 SIN	9.80	15.89	-0.93	-6.56	-0.27	-2.48
9 COS	-7.51	-19.45	-1.66	21.80	15.67	1.24	9 COS	-0.16	-6.44	-0.69	-2.97	-4.60	-1.24
9 SIN	1.85	35.00	-0.61	-14.17	-7.02	-3.02	9 SIN	-1.21	-8.01	2.59	3.33	-8.00	-1.76
10 COS	6.05	14.66	-5.07	-52.10	-17.30	-0.58	10 COS	0.99	2.00	-4.03	-8.77	-2.54	-0.67
10 SIN	-0.66	-0.07	2.77	-15.67	5.32	2.65	10 SIN	-1.64	15.35	-2.29	10.60	8.08	2.94
11 COS	-15.36	17.66	4.40	-4.20	3.63	-6.37	11 COS	1.73	6.22	-2.39	4.64	-9.38	-0.05
11 SIN	7.75	0.63	-1.04	-17.94	-5.29	-2.07	11 SIN	-5.06	-2.69	-0.43	10.93	1.42	1.74
12 COS	7.55	-7.58	0.38	19.87	10.59	0.97	12 COS	-5.26	-31.38	2.91	2.64	2.19	-6.01
12 SIN	10.81	-6.08	-1.45	-21.08	26.84	6.98	12 SIN	1.37	18.93	0.87	-0.98	11.30	-3.28

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## FFT COEFFICIENTS FOR DATA POINT

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## FFT COEFFICIENTS FOR DATA POINT

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HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
0C	-9.72 0.00	-112.35 0.00	-16.22 0.00	-16.50 0.00	-97.71 0.00	4.34 0.00	0C	-7.75 0.00	-94.88 0.00	-15.84 0.00	-13.16 0.00	-97.55 0.00	4.44 0.00
1 COS	0.42	16.21	-0.40	11.62	1.18	-1.08	1 COS	0.07	3.03	0.12	16.47	2.38	-0.08
1 SIN	-1.58	11.93	0.27	18.36	0.26	0.32	1 SIN	-0.66	-17.35	0.22	19.57	-0.79	0.35
2 COS	3.53	1.44	0.05	-1.40	2.53	1.02	2 COS	1.83	19.41	0.42	0.59	3.30	1.51
2 SIN	-2.63	16.91	0.73	3.70	1.08	0.71	2 SIN	-1.37	7.90	-0.70	5.50	0.68	-0.47
3 COS	-2.60	11.30	1.08	1.26	0.59	1.90	3 COS	-5.79	-14.43	3.44	-2.26	2.53	1.91
3 SIN	-2.85	-0.95	2.95	0.18	-0.92	-2.00	3 SIN	-3.77	-26.07	-2.42	0.45	-0.36	
4 COS	-13.68	-30.05	-6.42	16.24	-4.23	1.8	4 COS	5.99	6.64	-0.78	6.13	13.36	-4.23
4 SIN	-10.79	-4.60	4.64	0.27	-1.56	-3.0	4 SIN	10.97	-20.44	-33.19	-16.25	-26.38	-1.03
5 COS	2.06	-13.58	3.23	-12.63	3.15	-2.1	5 COS	5.63	-12.48	1.09	-0.16	5.73	4.03
5 SIN	3.24	7.21	-11.18	-13.23	5.41	2.2	5 SIN	-6.52	20.48	0.09	25.51	7.07	5.05
6 COS	1.91	-3.76	1.37	29.81	3.32	7.1	6 COS	-3.24	-26.90	-0.63	17.11	-0.07	3.21
6 SIN	-10.11	19.64	1.28	36.04	12.26	2.1	6 SIN	-9.33	0.59	0.26	11.29	2.51	-1.15
7 COS	-15.37	-14.85	-0.75	6.63	-0.31	0.20	7 COS	-18.45	3.74	-1.20	34.50	-0.68	0.32
7 SIN	6.06	5.96	0.73	-24.98	-0.48	-0.80	7 SIN	-10.85	11.03	0.71	-2.51	-1.32	1.13
8 COS	-7.82	1.96	3.16	2.06	-6.72	0.37	8 COS	11.85	3.50	-4.50	-13.52	4.17	9.09
8 SIN	-0.41	20.57	-1.71	-9.32	13.22	6.91	8 SIN	-5.34	-7.98	12.69	7.33	-8.57	-15.30
9 COS	-2.87	9.49	0.15	23.95	1.24	0.20	9 COS	1.39	15.87	-0.78	-7.95	14.77	4.51
9 SIN	3.95	-3.76	-2.75	-9.28	13.64	2.73	9 SIN	4.81	-1.17	0.88	-1.74	5.04	-2.14
10 COS	6.87	21.59	-7.55	-22.85	6.34	4.03	10 COS	4.89	35.03	-4.65	3.91	-16.37	2.19
10 SIN	-0.36	-15.71	-0.58	-2.03	-1.93	-0.09	10 SIN	1.52	-0.17	-1.82	20.00	2.67	5.87
11 COS	-22.38	0.17	2.55	31.14	0.84	-3.34	11 COS	2.20	17.41	-0.53	-12.79	0.59	3.08
11 SIN	-4.50	-21.23	2.64	-19.67	10.84	-2.67	11 SIN	7.35	2.82	-4.57	-1.45	-10.49	2.50
12 COS	-2.71	-1.20	-0.96	-18.48	-23.40	-1.57	12 COS	-2.84	5.21	-3.32	3.73	3.04	5.55
12 SIN	8.68	-14.00	2.92	-3.69	-17.31	-8.06	12 SIN	6.81	-0.40	1.71	12.36	-6.95	-4.17

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## FFT COEFFICIENTS FOR DATA POINT

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## FFT COEFFICIENTS FOR DATA POINT

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HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6	HARMONIC	ACC1	FLL1	ACC3	ACC4	ACC5	ACC6
DC	-9.89 0.00	-83.93 0.00	-15.68 0.00	-18.55 0.00	-98.90 0.00	4.66 0.00	DC	-8.41 0.00	-81.63 0.00	-16.37 0.00	-15.33 0.00	-98.85 0.00	4.45 0.00
1 COS 1 SIN	0.46 -1.61	-22.24 -2.80	-0.08 -1.04	9.58 19.75	0.86 -0.79	-0.67 0.41	1 COS 1 SIN	1.52 -1.48	14.83 -16.96	-0.14 0.31	13.62 18.37	0.65 -1.27	-0.81 0.41
2 COS 2 SIN	-0.69 -4.17	-12.18 -7.79	1.70 -0.78	0.59 0.24	0.73 -1.15	0.22 0.22	2 COS 2 SIN	-1.13 -3.92	17.13 -5.59	0.90 0.20	5.94 3.20	-1.28 0.82	0.32 -0.65
3 COS 3 SIN	-1.49 -2.31	2.66 2.76	4.09 -2.00	-5.14 4.41	1.06 -1.47	0.44 -1.70	3 COS 3 SIN	-3.28 2.54	-17.08 16.07	4.41 0.82	-5.49 -8.24	0.23 -1.71	3.09 -2.83
4 COS 4 SIN	-9.83 -16.57	-9.01 21.56	-18.09 26.39	3.80 13.52	-15.44 11.06	8.03 1.19	4 COS 4 SIN	3.83 -14.49	13.03 30.71	-22.16 -1.20	-1.35 16.33	-14.90 -10.35	1.87 -0.07
5 COS 5 SIN	0.90 2.45	22.07 -29.05	0.64 -3.28	-7.17 -17.87	1.45 2.43	-3.27 3.57	5 COS 5 SIN	-6.43 -3.41	13.93 3.36	4.32 -0.88	21.14 -17.99	4.66 1.16	-0.23 -0.70
6 COS 6 SIN	16.41 -7.63	12.10 5.47	1.33 2.00	-3.85 59.92	-2.66 9.00	5.00 0.55	6 COS 6 SIN	1.56 0.89	-4.71 -6.29	-0.30 0.41	-5.97 3.23	-4.32 9.56	1.47 2.98
7 COS 7 SIN	-14.79 -2.24	21.56 9.85	-0.78 1.64	21.22 -15.25	0.54 -2.84	0.63 -0.09	7 COS 7 SIN	1.06 14.05	12.55 11.23	-0.86 0.61	-16.30 -13.57	-3.29 0.06	0.71 0.29
8 COS 8 SIN	21.99 8.34	-5.68 -8.95	-7.61 -1.11	-21.72 6.10	2.62 5.86	8.78 9.75	8 COS 8 SIN	-9.64 5.96	21.32 5.46	7.13 -20.38	-3.81 -14.31	-10.79 31.18	-7.26 22.05
9 COS 9 SIN	0.93 0.40	7.71 11.54	4.05 0.51	-22.41 -11.03	-15.77 2.43	-1.59 2.14	9 COS 9 SIN	-7.63 -1.86	2.10 5.09	2.58 0.26	24.77 -0.75	-11.81 -7.96	-4.32 1.22
10 COS 10 SIN	4.77 -1.33	9.96 5.69	-9.66 2.06	-20.83 23.47	-2.04 -5.85	3.40 -0.58	10 COS 10 SIN	7.21 2.76	-3.34 8.98	-7.01 -0.06	-21.66 -36.66	2.37 4.35	0.37 1.07
11 COS 11 SIN	2.04 -3.54	-0.42 4.25	5.71 -0.63	5.57 10.56	-3.92 1.30	-5.57 2.62	11 COS 11 SIN	10.40 -2.59	-14.57 -4.06	-2.98 -0.99	-8.49 7.05	7.60 8.73	3.62 -1.72
12 COS 12 SIN	4.83 3.08	4.19 -2.41	0.09 1.75	1.70 -22.57	8.73 3.09	-0.37 -1.60	12 COS 12 SIN	-42.83 -3.58	5.33 3.34	-0.95 -3.07	-4.60 -8.77	-2.33 -23.74	2.64 4.67

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## APPENDIX E

### System Identification Transfer Matrices Prior to Averaging

This appendix presents the original transfer matrices acquired during the system identification testing. The transfer matrices presented previously in Tables 12 - 18 represent the averaged value of three matrices. These matrices were identified sequentially by adding one and then two additional control and measurement vectors to the LSE block after the initial identification. The identification batch size remained the same, since the oldest measurement and control were discarded. The transfer matrices in this appendix are presented in the order indicated in Table E1.

Table E1  
Organization of Appendix E.

Model Type	Batch Size	Excitation Amplitude	Rotor RPM	Table Number	Data On Page
LOCAL	36	0.5 Volts*	1100	E1	Page E3
LOCAL	36	0.5 Volts	1100	E2	Page E4
LOCAL	36	0.5 Volts	1100	E3	Page E5
LOCAL	36	1.0 Volts	1100	E4	Page E6
LOCAL	36	1.0 Volts	1100	E5	Page E7
LOCAL	36	1.0 Volts	1100	E6	Page E8
GLOBAL	36	1.0 Volts	1100	E7	Page E9
GLOBAL	36	1.0 Volts	1100	E8	Page E10
GLOBAL	36	1.0 Volts	1100	E9	Page E11
GLOBAL	48	1.0 Volts	1100	E10	Page E12
GLOBAL	48	1.0 Volts	1100	E11	Page E13
GLOBAL	48	1.0 Volts	1100	E12	Page E14
GLOBAL	48	6.0 Volts**	550	E13	Page E15
GLOBAL	48	6.0 Volts	550	E14	Page E16
GLOBAL	48	6.0 Volts	550	E15	Page E17
LOCAL	48	3.0 Volts	550	E16	Page E18
LOCAL	48	3.0 Volts	550	E17	Page E19
LOCAL	48	3.0 Volts	550	E18	Page E20
LOCAL	48	6.0 Volts	550	E19	Page E21
LOCAL	48	6.0 Volts	550	E20	Page E22
LOCAL	48	6.0 Volts	550	E21	Page E23

\*  $\pm$  0.5 Volts =  $\pm$  0.15 degrees at 1100 RPM.

\*\*  $\pm$  6.0 Volts =  $\pm$  2.0 degrees at 550 RPM.

Table E2

First local transfer matrix obtained at 1100 RPM using a batch size of 36 and  $\pm 0.5$  Volts ( $\pm 0.15^\circ$ ) excitation.

4/Rev	HHC Pitch Inputs					
Outputs	LONG,C	LONG,S	COLL,C	COLL,S	LAT,C	LAT,S
ACC1,C	-0.042	+0.098	+0.068	-0.182	-0.061	+0.088
ACC1,S	+0.003	+0.024	+0.042	+0.047	-0.144	+0.014
ACC2,C	+0.070	+0.260	-0.005	-0.129	-0.042	+0.016
ACC2,S	-0.167	+0.221	+0.172	-0.040	-0.096	-0.048
ACC3,C	+0.003	-0.017	-0.088	-0.012	+0.013	+0.026
ACC3,S	+0.020	+0.018	-0.014	-0.063	+0.001	+0.018
PLL1,C	-0.001	+0.001	+0.002	+0.000	+0.001	-0.001
PLL1,S	-0.001	-0.001	+0.002	+0.003	-0.001	+0.000
ACC5,C	-0.068	-0.067	+0.169	+0.150	+0.074	-0.094
ACC5,S	-0.014	-0.040	-0.009	+0.078	+0.084	-0.032
N2BL,C	-0.007	+0.027	+0.009	-0.003	+0.018	+0.009
N2BL,S	+0.002	-0.014	+0.021	-0.011	-0.023	+0.002

**Table E3**

Second local transfer matrix obtained at 1100 RPM using a batch size of 36 and  $\pm 0.5$  Volts ( $\pm 0.15^\circ$ ) excitation.

<b>4/Rev</b>	<b>HHC Pitch Inputs</b>					
<b>Outputs</b>	<b>LONG,C</b>	<b>LONG,S</b>	<b>COLL,C</b>	<b>COLL,S</b>	<b>LAT,C</b>	<b>LAT,S</b>
ACC1,C	-0.049	+0.088	+0.057	-0.183	-0.044	+0.078
ACC1,S	-0.002	+0.026	+0.044	+0.047	-0.148	+0.016
ACC2,C	+0.069	+0.251	-0.017	-0.130	-0.027	+0.011
ACC2,S	-0.179	+0.222	+0.173	-0.040	-0.098	-0.055
ACC3,C	+0.008	-0.018	-0.089	-0.011	+0.015	+0.027
ACC3,S	+0.024	+0.015	-0.017	-0.063	+0.004	+0.027
PLL1,C	+0.000	+0.001	+0.002	+0.000	+0.000	+0.002
PLL1,S	+0.001	-0.001	+0.002	+0.003	+0.000	-0.001
ACC5,C	-0.070	-0.064	+0.174	+0.151	+0.068	-0.093
ACC5,S	-0.019	-0.042	-0.011	+0.078	+0.088	-0.036
N2BL,C	-0.011	+0.026	+0.009	-0.003	+0.020	+0.006
N2BL,S	+0.002	-0.014	+0.021	-0.011	-0.024	+0.002

Table E4

Third local transfer matrix obtained at 1100 RPM using a batch size of 36 and  $\pm 0.5$  Volts ( $\pm 0.15^\circ$ ) excitation.

4/Rev	HHC Pitch Inputs					
Outputs	LONG,C	LONG,S	COLL,C	COLL,S	LAT,C	LAT,S
ACC1,C	-0.059	+0.081	+0.039	-0.197	-0.056	+0.074
ACC1,S	+0.001	+0.022	+0.065	+0.064	-0.153	+0.019
ACC2,C	+0.072	+0.259	-0.027	-0.142	-0.015	+0.010
ACC2,S	-0.183	+0.217	+0.177	-0.037	-0.107	-0.055
ACC3,C	+0.007	-0.019	-0.088	-0.010	+0.014	+0.027
ACC3,S	+0.023	+0.016	-0.021	-0.066	+0.005	+0.018
PLL1,C	+0.000	+0.001	+0.002	-0.001	+0.000	+0.002
PLL1,S	-0.001	-0.001	+0.001	+0.002	-0.001	-0.001
ACC5,C	-0.072	-0.059	+0.153	+0.133	+0.074	-0.096
ACC5,S	-0.021	-0.038	-0.031	+0.062	+0.095	-0.038
N2BL,C	-0.013	+0.025	+0.004	-0.007	+0.020	+0.005
N2BL,S	+0.003	-0.014	+0.022	-0.010	-0.023	+0.002

**Table E5**

First local transfer matrix obtained at 1100 RPM using a batch size of 36 and  $\pm 1.0$  Volts ( $\pm 0.33^\circ$ ) excitation.

4/Rev	HHC Pitch Inputs					
Outputs	LONG,C	LONG,S	COLL,C	COLL,S	LAT,C	LAT,S
ACC1,C	+0.126	-0.039	+0.302	-0.172	-0.324	+0.107
ACC1,S	-0.066	+0.132	+0.183	+0.316	-0.168	-0.271
ACC2,C	+0.384	+0.437	+0.195	-0.617	-0.216	+0.244
ACC2,S	-0.441	+0.457	+0.733	+0.069	-0.253	-0.252
ACC3,C	+0.024	-0.078	-0.160	-0.029	+0.101	+0.019
ACC3,S	+0.044	-0.004	+0.001	-0.113	-0.040	+0.078
PLL1,C	-0.002	+0.002	+0.005	+0.000	-0.002	-0.001
PLL1,S	-0.001	-0.004	+0.000	+0.007	+0.002	-0.004
ACC5,C	-0.123	+0.079	+0.115	+0.010	-0.002	+0.045
ACC5,S	+0.000	-0.195	+0.071	+0.140	-0.046	+0.009
N2BL,C	+0.008	+0.022	+0.012	-0.021	-0.020	+0.003
N2BL,S	-0.015	+0.012	+0.020	+0.017	-0.022	-0.014

Table E6

Second local transfer matrix obtained at 1100 RPM using a batch size of 36 and  $\pm 1.0$  Volts ( $\pm 0.33^\circ$ ) excitation.

4/Rev	HHC Pitch Inputs					
Outputs	LONG,C	LONG,S	COLL,C	COLL,S	LAT,C	LAT,S
ACC1,C	+0.121	-0.036	+0.305	-0.167	-0.324	+0.101
ACC1,S	-0.066	+0.133	+0.187	+0.315	-0.168	-0.273
ACC2,C	+0.388	+0.438	+0.211	-0.627	-0.215	+0.241
ACC2,S	-0.454	+0.467	+0.737	+0.085	-0.252	-0.265
ACC3,C	+0.025	-0.079	-0.163	-0.030	+0.101	+0.022
ACC3,S	+0.048	-0.006	+0.004	-0.119	-0.040	+0.080
PLL1,C	+0.002	+0.001	+0.005	+0.000	-0.002	-0.001
PLL1,S	-0.002	-0.004	+0.000	+0.007	+0.002	-0.004
ACC5,C	-0.118	+0.076	+0.114	+0.004	-0.003	+0.050
ACC5,S	-0.012	-0.188	+0.071	+0.155	-0.045	-0.002
N2BL,C	+0.007	+0.021	+0.006	-0.018	-0.020	+0.005
N2BL,S	-0.016	+0.013	+0.020	+0.019	-0.022	-0.015

Table E7

Third local transfer matrix obtained at 1100 RPM using a batch size of 36 and  $\pm 1.0$  Volts ( $\pm 0.33^\circ$ ) excitation.

4/Rev	HHC Pitch Inputs					
Outputs	LONG,C	LONG,S	COLL,C	COLL,S	LAT,C	LAT,S
ACC1,C	+0.107	-0.028	+0.315	-0.165	-0.339	+0.097
ACC1,S	-0.075	+0.128	+0.182	+0.314	-0.161	-0.281
ACC2,C	+0.399	+0.450	+0.224	-0.625	-0.236	+0.254
ACC2,S	-0.463	+0.463	+0.733	+0.084	-0.246	-0.272
ACC3,C	+0.025	-0.079	-0.163	-0.030	+0.101	+0.022
ACC3,S	+0.051	-0.002	+0.008	-0.118	-0.047	+0.084
PLL1,C	-0.002	+0.002	+0.005	+0.000	-0.003	-0.001
PLL1,S	-0.001	-0.004	-0.001	+0.007	+0.002	-0.004
ACC5,C	-0.106	+0.082	+0.121	-0.005	-0.014	+0.060
ACC5,S	-0.009	-0.191	+0.067	+0.154	-0.039	-0.002
N2BL,C	+0.004	+0.010	+0.005	-0.019	-0.018	+0.003
N2BL,S	-0.016	+0.011	+0.017	+0.019	-0.018	-0.016

Table E8

First global transfer matrix obtained at 1100 RPM using a batch size of 36 and  $\pm 1.0$  Volts ( $\pm 0.33^\circ$ ) excitation.

4/Rev	HHC Pitch Inputs						
Outputs	LONG,C	LONG,S	COLL,C	COLL,S	LAT,C	LAT,S	Z-ZERO
ACC1,C	+0.083	+0.059	+0.429	-0.102	-0.357	+0.060	+9.333
ACC1,S	-0.067	+0.126	+0.102	+0.316	-0.010	-0.340	+3.337
ACC2,C	+0.184	+0.651	+0.273	-0.666	-0.259	+0.170	+19.21
ACC2,S	-0.475	+0.216	+0.603	+0.131	-0.118	-0.227	+15.21
ACC3,C	+0.018	-0.052	-0.128	-0.025	+0.06	+0.054	-0.939
ACC3,S	+0.026	+0.036	+0.072	-0.095	-0.058	+0.079	+1.637
PLL1,C	-0.002	-0.001	+0.005	+0.003	-0.003	-0.005	+0.070
PLL1,S	-0.003	-0.003	-0.003	+0.007	+0.003	-0.005	-0.082
ACC5,C	-0.135	+0.044	+0.060	-0.011	+0.006	+0.007	-7.546
ACC5,S	+0.075	-0.159	-0.031	+0.120	+0.023	+0.015	-4.303
N2BL,C	-0.005	+0.024	+0.015	-0.017	-0.011	+0.020	+1.124
N2BL,S	-0.012	+0.002	+0.036	+0.006	-0.012	-0.025	+1.906

Table E9

Second global transfer matrix obtained at 1100 RPM using a batch size of 36 and  $\pm 1.0$  Volts ( $\pm 0.33^\circ$ ) excitation.

4/Rev	HHC Pitch Inputs						
Outputs	LONG,C	LONG,S	COLL,C	COLL,S	LAT,C	LAT,S	Z-ZERO
ACC1,C	+0.075	+0.056	+0.414	-0.107	-0.340	+0.072	+10.209
ACC1,S	-0.052	+0.129	+0.116	+0.309	-0.021	-0.346	+2.629
ACC2,C	+0.201	+0.656	+0.294	-0.669	-0.278	+0.162	+18.070
ACC2,S	-0.476	+0.215	+0.600	+0.129	-0.113	-0.227	+15.445
ACC3,C	+0.014	-0.053	-0.130	-0.023	+0.055	+0.043	-0.824
ACC3,S	+0.028	+0.036	+0.072	-0.097	-0.057	+0.078	+1.651
PLL1,C	-0.002	-0.001	+0.005	+0.003	-0.003	-0.005	+0.067
PLL1,S	-0.003	-0.003	-0.003	+0.007	+0.003	-0.005	-0.071
ACC5,C	-0.130	+0.048	+0.080	-0.001	+0.032	+0.07	-8.800
ACC5,S	+0.071	-0.162	-0.048	+0.108	+0.047	+0.013	-3.226
N2BL,C	-0.006	+0.024	+0.030	-0.016	-0.010	+0.020	+1.100
N2BL,S	-0.011	+0.002	+0.037	+0.006	-0.013	-0.025	+1.832

Table E10

Third global transfer matrix obtained at 1100 RPM using a batch size of 36 and  $\pm 1.0$  Volts ( $\pm 0.33^\circ$ ) excitation.

4/Rev	HHC Pitch Inputs						
Outputs	LONG,C	LONG,S	COLL,C	COLL,S	LAT,C	LAT,S	Z-ZERO
ACC1,C	+0.046	+0.065	+0.422	-0.124	-0.368	+0.046	+8.922
ACC1,S	-0.054	+0.128	+0.106	+0.308	-0.019	-0.341	+2.715
ACC2,C	+0.170	+0.673	+0.334	-0.686	-0.321	+0.114	+16.14
ACC2,S	-0.513	+0.228	+0.615	+0.109	-0.150	-0.263	+13.763
ACC3,C	+0.024	-0.056	-0.133	-0.017	+0.065	+0.052	-0.384
ACC3,S	+0.025	+0.036	+0.068	-0.098	-0.057	+0.079	+1.611
PLL1,C	-0.002	-0.001	+0.006	+0.003	-0.003	-0.005	+0.055
PLL1,S	-0.003	-0.003	-0.003	+0.008	+0.003	-0.005	-0.054
ACC5,C	-0.114	+0.046	+0.084	+0.007	+0.042	+0.014	-8.321
ACC5,S	+0.053	-0.159	-0.055	+0.097	+0.034	+0.004	-3.831
N2BL,C	-0.007	+0.026	+0.020	-0.016	-0.014	+0.015	+1.058
N2BL,S	-0.011	+0.002	+0.038	+0.006	-0.013	-0.025	+1.836

Table E11

First global transfer matrix obtained at 1100 RPM using a batch size of 48 and  $\pm 1.0$  Volts ( $\pm 0.33^\circ$ ) excitation.

4/Rev	HHC Pitch Inputs						
Outputs	LONG,C	LONG,S	COLL,C	COLL,S	LAT,C	LAT,S	Z-ZERO
ACC1,C	+0.130	+0.048	+0.250	-0.139	-0.262	+0.101	-3.193
ACC1,S	-0.025	+0.125	+0.114	+0.343	-0.050	-0.273	+6.683
ACC2,C	+0.466	+0.430	-0.026	-0.576	-0.136	+0.332	-22.53
ACC2,S	-0.424	+0.401	+0.688	+0.031	-0.260	-0.179	+8.546
ACC3,C	+0.009	-0.043	-0.123	-0.041	+0.065	+0.019	-2.444
ACC3,S	+0.049	+0.009	-0.004	-0.113	-0.035	+0.107	-2.943
PLL1,C	-0.002	+0.000	+0.004	+0.001	-0.004	-0.003	+0.024
PLL1,S	-0.001	-0.002	-0.001	+0.007	+0.003	-0.003	+0.132
ACC5,C	-0.128	+0.078	+0.135	+0.034	-0.000	+0.023	+6.286
ACC5,S	+0.019	-0.163	+0.089	+0.165	-0.009	-0.019	+4.658
N2BL,C	+0.016	+0.006	+0.002	-0.032	+0.004	+0.021	-1.758
N2BL,S	-0.018	+0.019	+0.010	+0.001	-0.020	-0.006	-0.833

Table E12

Second global transfer matrix obtained at 1100 RPM using a batch size of 48 and  $\pm 1.0$  Volts ( $\pm 0.33^\circ$ ) excitation.

4/Rev	HHC Pitch Inputs						
Outputs	LONG,C	LONG,S	COLL,C	COLL,S	LAT,C	LAT,S	Z-ZERO
ACC1,C	+0.138	+0.007	+0.250	-0.152	-0.260	+0.088	-2.867
ACC1,S	-0.025	+0.132	+0.118	+0.349	-0.056	-0.267	+6.197
ACC2,C	+0.453	+0.439	-0.029	-0.559	-0.134	+0.351	-22.770
ACC2,S	-0.407	+0.388	+0.691	+0.008	-0.261	-0.204	+8.938
ACC3,C	+0.008	-0.042	-0.123	-0.040	+0.065	+0.020	-2.465
ACC3,S	+0.049	+0.008	-0.004	-0.115	-0.035	+0.106	-2.902
PLL1,C	-0.002	+0.000	+0.004	+0.001	-0.004	-0.003	+0.029
PLL1,S	-0.001	-0.002	-0.001	+0.007	+0.003	-0.003	+0.140
ACC5,C	-0.134	+0.076	+0.129	+0.037	+0.006	+0.026	+6.614
ACC5,S	+0.028	-0.167	+0.092	+0.155	-0.011	-0.030	+4.722
N2BL,C	+0.016	+0.005	+0.001	-0.032	+0.005	+0.020	-1.671
N2BL,S	-0.017	+0.019	+0.011	-0.000	-0.021	-0.007	-0.862

Table E13

Third global transfer matrix obtained at 1100 RPM using a batch size of 48 and  $\pm 1.0$  Volts ( $\pm 0.33^\circ$ ) excitation.

4/Rev	HHC Pitch Inputs						
Outputs	LONG,C	LONG,S	COLL,C	COLL,S	LAT,C	LAT,S	Z-ZERO
ACC1,C	+0.132	+0.008	+0.255	-0.157	-0.268	+0.080	-3.156
ACC1,S	-0.038	+0.144	+0.130	+0.336	-0.067	-0.283	+6.181
ACC2,C	+0.431	+0.482	-0.012	-0.588	-0.137	+0.325	-22.178
ACC2,S	-0.386	+0.363	+0.672	+0.032	-0.246	-0.176	+8.681
ACC3,C	+0.009	-0.045	-0.124	-0.038	+0.065	+0.021	-2.573
ACC3,S	+0.048	+0.010	-0.003	-0.116	-0.035	+0.104	-2.834
PLL1,C	-0.003	+0.000	+0.004	+0.001	-0.004	-0.003	+0.004
PLL1,S	-0.001	-0.002	-0.001	+0.006	+0.003	-0.003	+0.133
ACC5,C	-0.128	+0.076	+0.124	+0.040	+0.014	+0.033	+6.979
ACC5,S	+0.028	-0.170	+0.091	+0.156	-0.012	-0.030	+4.599
N2BL,C	+0.045	+0.007	+0.002	-0.034	+0.005	+0.019	-1.608
N2BL,S	-0.015	+0.016	+0.010	+0.002	-0.020	-0.005	-0.960

Table E14

First global transfer matrix obtained at 550 RPM using a batch size of 48 and  $\pm 6.0$  Volts ( $\pm 2.0^\circ$ ) excitation.

4/Rev	HHC Pitch Inputs						
Outputs	LONG,C	LONG,S	COLL,C	COLL,S	LAT,C	LAT,S	Z-ZERO
ACC1,C	-0.031	-0.049	+0.007	-0.012	+0.165	-0.196	+0.703
ACC1,S	+0.045	-0.037	+0.042	-0.019	+0.077	+0.177	-3.099
PLL1,C	+0.050	-0.020	+0.014	-0.196	+0.023	+0.018	+0.135
PLL1,S	+0.040	-0.012	+0.195	+0.010	+0.007	+0.054	-1.035
ACC3,C	-0.027	+0.054	+0.420	+0.112	-0.024	+0.001	+2.016
ACC3,S	-0.050	+0.000	-0.140	+0.423	-0.005	-0.024	+3.118
ACC4,C	+0.050	-0.012	+0.031	+0.012	-0.192	+0.019	-2.381
ACC4,S	-0.036	+0.048	-0.050	+0.044	+0.009	-0.207	+5.424
ACC5,C	+0.018	-0.077	+0.280	+0.154	-0.004	-0.018	+0.218
ACC5,S	+0.066	+0.038	-0.192	+0.273	+0.030	-0.007	+4.05
ACC6,C	+0.045	-0.053	+0.066	-0.143	+0.014	-0.007	-1.407
ACC6,S	+0.043	+0.044	+0.135	+0.059	+0.008	+0.019	+1.362

**Table E15**

Second global transfer matrix obtained at 550 RPM using a batch size of 48 and  $\pm 6.0$  Volts ( $\pm 2.0^\circ$ ) excitation.

4/Rev	HHC Pitch Inputs						
Outputs	LONG,C	LONG,S	COLL,C	COLL,S	LAT,C	LAT,S	Z-ZERO
ACC1,C	-0.031	-0.048	+0.008	-0.013	+0.164	-0.097	+0.665
ACC1,S	+0.047	-0.038	+0.043	-0.021	+0.077	+0.175	-3.089
PLL1,C	+0.054	-0.024	+0.014	-0.102	+0.024	+0.012	+0.302
PLL1,S	+0.035	-0.009	+0.194	+0.015	+0.008	+0.060	-1.121
ACC3,C	-0.022	+0.054	+0.424	+0.108	-0.029	-0.004	+1.780
ACC3,S	-0.050	+0.000	-0.140	+0.423	-0.005	-0.024	+3.123
ACC4,C	+0.047	-0.011	+0.030	+0.014	-0.191	+0.021	-2.350
ACC4,S	-0.039	+0.050	-0.051	+0.048	+0.009	-0.203	+5.396
ACC5,C	+0.021	-0.076	+0.284	+0.153	-0.009	-0.020	-0.042
ACC5,S	+0.065	+0.039	-0.191	+0.275	+0.029	-0.008	+3.934
ACC6,C	+0.047	-0.053	+0.070	-0.144	+0.012	-0.008	-1.493
ACC6,S	+0.044	+0.044	+0.135	+0.058	+0.007	+0.018	+1.318

Table E16

Third global transfer matrix obtained at 550 RPM using a batch size of 48 and  $\pm 6.0$  Volts ( $\pm 2.0^\circ$ ) excitation.

4/Rev	HHC Pitch Inputs						
Outputs	LONG,C	LONG,S	COLL,C	COLL,S	LAT,C	LAT,S	Z-ZERO
ACC1,C	-0.030	-0.049	+0.007	-0.012	+0.164	-0.096	+0.647
ACC1,S	+0.048	-0.040	+0.042	-0.020	+0.076	+0.176	-3.181
PLL1,C	+0.048	-0.022	+0.019	-0.106	+0.018	+0.005	+0.090
PLL1,S	+0.027	-0.011	+0.202	+0.010	-0.006	+0.048	-1.853
ACC3,C	-0.021	+0.054	+0.424	+0.109	-0.029	-0.003	+1.765
ACC3,S	-0.048	-0.003	-0.141	+0.425	-0.004	-0.022	+3.026
ACC4,C	+0.048	-0.014	+0.029	+0.015	-0.192	+0.022	-2.530
ACC4,S	-0.047	+0.057	-0.044	+0.040	+0.002	-0.214	+5.374
ACC5,C	+0.022	-0.077	+0.284	+0.153	-0.009	-0.020	-0.105
ACC5,S	+0.070	+0.036	-0.194	+0.278	+0.031	-0.001	+3.899
ACC6,C	+0.047	-0.054	+0.068	-0.143	+0.012	-0.007	-1.563
ACC6,S	+0.046	+0.042	+0.134	+0.060	+0.009	+0.021	+1.335

Table E17

First local transfer matrix obtained at 550 RPM using a batch size of 48 and  $\pm 3.0$  Volts ( $\pm 1.0^\circ$ ) excitation.

4/Rev	HHC Pitch Inputs					
Outputs	LONG,C	LONG,S	COLL,C	COLL,S	LAT,C	LAT,S
ACC1,C	-0.025	-0.011	-0.008	-0.004	+0.117	-0.080
ACC1,S	+0.017	-0.014	+0.008	+0.005	+0.066	+0.125
PLL1,C	+0.065	-0.070	-0.121	-0.075	-0.031	+0.028
PLL1,S	+0.030	-0.041	+0.086	-0.015	+0.089	-0.022
ACC3,C	+0.008	+0.021	+0.163	+0.050	-0.014	+0.012
ACC3,S	-0.028	+0.008	-0.038	+0.165	-0.009	-0.009
ACC4,C	+0.009	-0.052	+0.039	-0.022	-0.104	+0.104
ACC4,S	+0.024	+0.020	+0.002	+0.035	-0.107	-0.106
ACC5,C	-0.009	-0.028	+0.115	+0.083	-0.011	-0.004
ACC5,S	+0.031	+0.005	-0.084	+0.120	+0.011	+0.003
ACC6,C	+0.006	-0.031	+0.003	-0.046	+0.011	-0.007
ACC6,S	+0.031	+0.006	+0.039	+0.012	+0.006	+0.017

Table E18

Second local transfer matrix obtained at 550 RPM using a batch size of 48 and  $\pm 3.0$  Volts ( $\pm 1.0^\circ$ ) excitation.

4/Rev	HHC Pitch Inputs					
Outputs	LONG,C	LONG,S	COLL,C	COLL,S	LAT,C	LAT,S
ACC1,C	-0.025	-0.011	-0.008	-0.004	+0.117	-0.079
ACC1,S	+0.017	-0.013	+0.009	+0.004	+0.065	+0.125
PLL1,C	+0.070	-0.078	-0.132	-0.074	-0.026	+0.035
PLL1,S	+0.029	-0.040	+0.078	-0.014	+0.079	-0.014
ACC3,C	+0.007	+0.021	+0.166	+0.049	-0.011	+0.010
ACC3,S	-0.029	+0.009	-0.040	+0.165	-0.011	-0.009
ACC4,C	+0.007	-0.050	+0.040	-0.021	-0.108	+0.104
ACC4,S	+0.024	+0.020	+0.002	+0.035	-0.107	-0.106
ACC5,C	-0.009	-0.027	+0.118	+0.083	-0.009	-0.007
ACC5,S	+0.030	+0.005	-0.084	+0.120	+0.011	+0.003
ACC6,C	+0.006	-0.031	+0.003	-0.046	+0.012	-0.007
ACC6,S	+0.031	+0.007	+0.040	+0.012	+0.006	+0.016

**Table E19**

Third local transfer matrix obtained at 550 RPM using a batch size of 48 and  $\pm 3.0$  Volts ( $\pm 1.0^\circ$ ) excitation.

4/Rev	HHC Pitch Inputs					
Outputs	LONG,C	LONG,S	COLL,C	COLL,S	LAT,C	LAT,S
ACC1,C	-0.028	-0.006	-0.006	-0.003	+0.115	-0.079
ACC1,S	+0.020	-0.012	+0.009	+0.005	+0.066	+0.127
PLL1,C	+0.063	-0.057	-0.124	-0.069	-0.034	+0.037
PLL1,S	+0.017	-0.019	+0.087	-0.009	+0.070	-0.015
ACC3,C	+0.008	+0.020	+0.166	+0.049	-0.011	+0.010
ACC3,S	-0.027	+0.008	-0.038	+0.165	-0.010	-0.008
ACC4,C	+0.011	-0.051	+0.038	-0.022	-0.106	+0.106
ACC4,S	+0.021	+0.015	+0.001	+0.034	-0.106	-0.109
ACC5,C	-0.008	-0.027	+0.118	+0.083	-0.009	-0.006
ACC5,S	+0.033	+0.003	-0.085	+0.119	+0.007	+0.004
ACC6,C	+0.006	-0.030	+0.003	-0.046	+0.010	-0.007
ACC6,S	+0.032	+0.007	+0.040	+0.012	+0.006	+0.017

Table E20

First local transfer matrix obtained at 550 RPM using a batch size of 48 and  $\pm 6.0$  Volts ( $\pm 2.0^\circ$ ) excitation.

4/Rev	HHC Pitch Inputs					
Outputs	LONG,C	LONG,S	COLL,C	COLL,S	LAT,C	LAT,S
ACC1,C	-0.038	-0.026	-0.039	-0.014	+0.159	-0.102
ACC1,S	+0.037	-0.036	+0.029	-0.010	+0.094	+0.159
PLL1,C	+0.024	-0.024	-0.024	-0.205	-0.035	-0.022
PLL1,S	+0.028	-0.090	+0.091	+0.036	+0.012	-0.021
ACC3,C	-0.005	+0.052	+0.353	+0.039	-0.044	-0.019
ACC3,S	-0.046	+0.025	-0.026	+0.361	-0.016	-0.027
ACC4,C	+0.060	-0.054	+0.117	+0.056	-0.161	-0.007
ACC4,S	+0.023	+0.029	-0.032	+0.101	-0.027	-0.186
ACC5,C	+0.012	-0.071	+0.245	+0.113	-0.016	-0.046
ACC5,S	+0.072	+0.035	-0.111	+0.252	+0.011	-0.007
ACC6,C	+0.034	-0.063	+0.025	-0.129	+0.009	-0.011
ACC6,S	+0.057	+0.036	+0.106	+0.029	+0.000	+0.004

Table E21

Second local transfer matrix obtained at 550 RPM using a batch size of 48 and  $\pm 6.0$  Volts ( $\pm 2.0^\circ$ ) excitation.

4/Rev	HHC Pitch Inputs					
Outputs	LONG,C	LONG,S	COLL,C	COLL,S	LAT,C	LAT,S
ACC1,C	-0.039	-0.025	-0.036	-0.014	+0.159	-0.104
ACC1,S	+0.036	-0.035	+0.031	-0.013	+0.093	+0.159
PLL1,C	+0.019	-0.023	-0.018	-0.187	-0.031	-0.037
PLL1,S	+0.022	-0.085	+0.101	+0.049	+0.016	-0.037
ACC3,C	-0.007	+0.054	+0.357	+0.040	-0.044	-0.023
ACC3,S	-0.046	+0.026	-0.024	+0.361	-0.016	-0.028
ACC4,C	+0.059	-0.053	+0.119	+0.054	-0.161	-0.008
ACC4,S	+0.026	+0.025	-0.040	+0.099	-0.028	-0.178
ACC5,C	+0.010	-0.069	+0.249	+0.114	-0.016	-0.051
ACC5,S	+0.071	+0.036	-0.109	+0.252	+0.011	-0.008
ACC6,C	+0.033	-0.062	+0.027	-0.126	+0.010	-0.014
ACC6,S	+0.056	+0.037	+0.107	+0.028	-0.001	+0.004

Table E22

Third local transfer matrix obtained at 550 RPM using a batch size of 48 and  $\pm 6.0$  Volts ( $\pm 2.0^\circ$ ) excitation.

4/Rev	HHC Pitch Inputs					
Outputs	LONG,C	LONG,S	COLL,C	COLL,S	LAT,C	LAT,S
ACC1,C	-0.039	-0.023	-0.042	-0.013	+0.151	-0.098
ACC1,S	+0.038	-0.034	+0.030	-0.013	+0.092	+0.161
PLL1,C	+0.023	-0.025	-0.013	-0.188	+0.020	-0.042
PLL1,S	+0.019	-0.083	+0.096	+0.050	+0.004	-0.030
ACC3,C	-0.007	+0.056	+0.350	+0.041	-0.054	-0.015
ACC3,S	-0.044	+0.022	-0.014	+0.359	+0.002	-0.041
ACC4,C	+0.059	-0.054	+0.121	+0.054	-0.157	-0.011
ACC4,S	+0.020	+0.027	-0.043	+0.100	-0.037	-0.176
ACC5,C	+0.011	-0.067	+0.243	+0.115	-0.024	-0.043
ACC5,S	+0.075	+0.033	-0.102	+0.250	+0.024	-0.017
ACC6,C	+0.032	-0.060	+0.023	-0.125	+0.003	-0.009
ACC6,S	+0.056	+0.038	+0.105	+0.028	-0.004	+0.007



# Report Documentation Page

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16. Abstract  A test was conducted to assess the capabilities of a small-scale rotor test rig for implementing higher harmonic control and stability augmentation algorithms. The test rig uses three high-speed actuators to excite the swash-plate over a range of frequencies. The actuator position signals were monitored to measure the response amplitudes at several frequencies. The ratio of response amplitude to excitation amplitude was plotted as a function of frequency. In addition to actuator performance, acceleration from six accelerometers placed on the test rig was monitored to determine whether a linear relationship exists between the harmonics of N/Rev control input and the harmonics of any resulting N/Rev measured-fuselage vibration. The ordinary least square error (LSE) identification technique was used to identify local and global transfer matrices for two rotor speeds at two batch sizes each. It was determined that the MCCS interfaced very well with the rotor system and kept track of the input accelerometer signals and their phase angles. However, the current high-speed actuators were found to be incapable of providing sufficient control authority at the higher excitation frequencies.		13. Type of Report and Period Covered Technical Memorandum	
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